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सी.एफ.टी.आर.आई. क्षेत्रीय केन्द्र
C.F.T.R.I. REGIONAL CENTRE
डायरी नं./DIARY NO. 368
दिनांक/DATE 20/8/97
लुधियाना/LUDHIANA-141 006

REGIONAL WORKSHOP

on

TRADITIONAL INDIAN FOOD PRODUCTS

at

NEW AUDITORIUM , DEPARTMENT OF CHEMICAL TECHNOLOGY,
UNIVERSITY OF BOMBAY, MATUNGA, MUMBAI 400 019.

on

OCTOBER 4-5, 1996

organised
by

MINISTRY OF FOOD PROCESSING INDUSTRIES,
GOVERNMENT OF INDIA.

Regional Workshop

on

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FRIDAY, OCTOBER 4, 1996

10.00 A.M. INAUGURAL SESSION

WELCOME TO PARTICIPANTS	Dr. P. J. DUBASH Coordinating Chairman
THEME OF THE WORKSHOP	Dr. H. A. B. PARPIA Chairman, Traditional Food Products Panel Former Director, CFTRI, MYSORE.
INAUGURAL ADDRESS	Prof. M. M. SHARMA Director, UDCT.
KEYNOTE ADDRESS	Prof. P.R. KULKARNI, Head, Food & Fermen. Tech. Div., UDCT
VOTE OF THANKS	Dr. S.R. PADWAL DESAI BARC, Mumbai.

11.30 - 11.45 A.M. HIGH TEA

11.45 A.M. SESSION I : VEGETABLE, FRUIT AND CEREAL BASED PRODUCTS

CHAIRMAN : Dr. P. J. DUBASH
RAPPORTEUR : Dr. A.S. GHOLAP

1. Mr.Jayant Laijawalia *Director, Liaja Foods*	...	...	Ready mixes of traditional foods - vegetable biryani & Pulao etc.
2. Mr. Jaisukh Kakad *J.K. Sweet Relations*	...	...	Dry Fruit Chikkis and Sweets (HINDI)
3. Dr.U.Y.Rege , *Consultant*	...	...	Ready Mixes for convenient Traditional Foods

1.30 - 2.15 P.M. LUNCH

2.15 P.M. SESSION II : DAIRY BASED CONVENIENCE FOODS

CHAIRMAN : Dr. H.A.B. PARPIA
RAPPORTEUR : Dr. S.B.K. WARRIER

1. Mr. Nitin Bahl *Proprietor, M/s. Punjabi Chandu Halwai*	...	...	Dairy and Milk Based Traditional Foods
2. Mr. Kailash Asher *Dairy Consultant*	...	...	Relevant Machinery for Dairy Based Traditional Foods
3. Mr. D. J. Yadav *Partner, Solar Arks, Kolhapur*	...	...	Khoa making machine

3.30 P.M. TEA

3.45 P.M. SESSION III : TRADITIONAL FOOD MACHINERY

CHAIRMAN : Dr. H.A.B. PARPIA
RAPPORTEUR : Dr. S.B.K. WARRIER

1. Mr.Anil Chittar *Appropriate Projects*	...	...	Technology & Engineering for Traditional Food Products
2. Mr.B.R.Bedekar, *Consultant*	...		Need to Develop Food Engg. for Traditional Food Products
3. Mr. Rajendra Mehta *Director, Foram Foods*			Papad, Chapati and Kurmura making machines

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SATURDAY, OCTOBER 5, 1996

9.30 A.M. SESSION IV : MARKETING OF TRADITIONAL FOOD PRODUCTS

CHAIRMAN : Dr. S. R. PADWAL DESAI

RAPPORTEUR : Mr. S. B.TAMNE

1. Mr. Satish Kirtane ... ... Marketing of Traditional Foods
   Gen. Mgr., Apana Bazar
2. Mr. P.V.Narayanan, *Director, IIP*... Packaging for Traditional Foods

10.15 A.M. VIDEO PRESENTATION - CHAPATI ROLLING MAKING - FORAM FOODS

10.45 A.M. VALEDICTORY SESSION

CHAIRMAN : Dr. S. R. PADWAL DESAI

RAPPORTEUR : Mr. S. B.TAMNE

Hon. Shri Suresh Prabhu — Finance considerations for Development of
Ex Member of Parliament — Traditional Food Products
Minister, Public Accounts Committee.

11.30 A.M. TEA

12.00 OPEN PANEL DISCUSSION

CHAIRMAN & COORDINATOR : Dr. H.A.B. PARPIA

MEMBERS : Hon. Mr. Suresh Prabhu
Mr. B.R. Bedekar
Mr. Satish Kirtane
Mr. P. V. Narayanan
Dr. S. R. Padwal Desai
Dr.(Mrs) P. N. Shastri. Dept. of Food Tech., LIT, Nagpur.

12.30-1.00 P.M. EXHIBITS - DEMONTRATIONS - DISPLAYS

1:15 P.M. LUNCH

Followed by

Summing up Dr. H.A.B. PARPIA
Vote of Thanks Dr. P. J. DUBASH

TEA

SPEAKERS

1. Mr. Jayasukh T. Kakkad	Partner, JK Sweet Relations, Mumbai
2. Mr. Rajendra M. Mehta	Director, Foram Foods Pvt. Ltd., Mumbai
3. Mr. J.D. Yadav/E.S.Rane	Partner, Solar Arks, Kolhapur
4. Mr. Jayant Laijawala	Director, Laija Foods, Mumbai
5. Mr. B.R.Bedekar	Consultant, Pune
6. Mr. Kailash B. Ashar	Dairy Consultant, Mumbai
7. Dr.U.Y.Rege	Consultant, Mumbai
8. Mr. Satish Kirtane	Gen. Manager, Apna Bazar, Mumbai
9. Hon. Shri. Suresh Prabhu	Member, Public Accounts Committee
10.Mr.P.V.Narayanan	Director, IIP, Mumbai
11.Mr.Anil Chittar	Appropriate Projects, Pune
12.Dr.H.A.B.Parpia	Chairman, Traditional Food Products Panel, MFPI, Former Director, CFTRI, Mysore
13.Prof.P.R.Kulkarni	Head,Food & Fermn.Technology Division,UDCT
14.Prof.M.M.Sharma	Director, UDCT, Mumbai
15.Dr.S.R.Padwal-Desai	BARC, Mumbai
16.Dr.A.S.Gholap	BARC, Mumbai
17.Dr.S.B.K.Warrier	BARC, Mumbai
18.Mr.S.B.Tamne	UDCT, Mumbai
19.Dr.P.N.Shastri	LIT, Nagpur
20.Dr.P.J.Dubash	Co-ordinating Chairman UDCT, Mumbai

PARTICIPANTS

1. Mr. Atul Sangave	Proprietor, Shubh Ann Co., Nashik
2. Mr.A.K.Talwar	Export Manager, M.M. Poonjiaji & Co., Mumbai
3. Mr.Bhupendra H. Kuvadia/ Mr.C.C. Chitale	Partner, Frolic Foods, Mumbai
4. Mr. Nitin Bahl	Proprietor, Punjabi Chandu Halwai, Mumbai
5. Mr. Manohar G. Shah	Bharat Rice Milk, Roha
6. Ms. Sheila A. Puranik	Partner, OM Bakery, Panvel, Mumbai
7. Ms. Vidya V. Patil	Mayur Bakery, Raigad, Alibaug
8. Mr. Gunwant Manjrekar	Malwan Foods
9. Mr. Pramod Chandedkar	Proprietor, Chandedkar & Sons, Mumbai
10.Ms.Prema Purav	Annapurna
11.Mr.Datta Mausekar	Annapurna
12.Mr.Bhushan Sharma	Dairy
13.Mr.Sharad Hasamnis	QC Manager, Chordia Food Products, Pune
14.Mr.Pradeep Jain	Jain Sweets & Bhelpuri House, Mumbai
15.Mr.Subhash Kabadi	MD, Ruchees Snack Foods Pvt. Ltd., Mumbai
16. Mr.Uday Khare	Malhar Industrial Associates, Mumbai
17. Mr.N.D. Sharda	Ministry of Food Processing Industries, Mumbai
18. Mr.Datta Manchekar	Consultant, Mumbai
19. Mr.P.Y.Lokre	Milkiway Systems Inc., Pune
20. Mr.M.Mehta	Haarmann & Reimer (Flavours), Mumbai

21. Mr Rajay D. Meshram	Centre for Integrated Rural Development, Aurangabad
22. Mr. Mohan Methai	Manav Sandhan Vikas Sanstha, Mumbai
23. Mr.R.R.Nahar	Pushkar Food Corpn., (Papads), Pune
24. Mr.Madhav Joshi	Mukteshwar Ashram, Mumbai
25. Mr.K.S.Sanade/J.D.Mallari	Maharshtra Institute, Mumbai
26. Ms.S.S.Kasabe	UDCT, Mumbai
27.Mr.D.S.Nerurkar	Link Cadre Associations for Rural Development & Studies
28. Mr. Dilip L. Malandkar	..... do .....
29. Mr. Suhas S. Pradkar	..... do .....
30. Mr. Madhukar L. Paradkar	..... do .....
31. Dr. Sharad T. Sawant	Maharashtra Institute of Labour Studies & Development, chamarbaug Rd., Parel, Mumbai

COMMITTEE MEMBERS

1. Dr.H.R.Adhikari	BARC, Mumbai
2. Dr.G.Subbulakshmi/Dr.K.Subhada	SNDT, Mumbai
3. Prof.D.V.Rege	Ex-Director, UDCT, Mumbai
4. Mr.S.R.Javalgekar	Food Consultant, Mumbai
5. Prof.J.S.Pai	UDCT, Mumbai
6. Dr.C.L.Nagarsekar	Food Consultant, Mumbai
7. Dr.S.G.Patwardhan/Dr.Prakash Badgujar	CFTRI, Exptl. Stn., Mumbai
8. Dr.M.Y.Kamat	UDCT, Mumbai
9. Dr.R.S.Singhal	..... do .....
10.Dr.S.S.Lele	..... do .....
11. Mr.L.Rodrigues	..... do .....
12. Ms.Laxmi A.	..... do .....
13. Mr.B.K.Barai	..... do .....
14. Mr.S.P.Nandedkar	Food Consultant, Mumbai
15. Mr.Atul Rege	UDCT, Mumbai
16. Mr.H.S.Sharma	..... do .....
17. Ms.Beena Desai	..... do .....
18. Mr.A.K.Sahoo	..... do .....
19. Mr.T.V.Ranganathan	..... do .....
20. Mr.Pradeep Goel	..... do .....

INVITEES

1.	Dr.N.A.Pandit	Food Consultant, Mumbai
2.	Mr.L.K.Shah	Ex-Herbertsons, Mumbai
3.	Mr.S.V.Krishnaswamy	Food Consultant, Mumbai
4.	Mr.Nikhil Kamat	
5.	Dr.Arun Behere	BARC, Mumbai
6.	Dr.Sudha Rao	..... do .....
7.	Dr.(Mrs.)Pednekar	..... do .....
8.	Dr.A.K.Sharma	..... do .....
9.	Dr.D.R.Bongirwas	..... do .....
10.	Dr.P.Thomas	..... do .....
11.	Shri.S.V.Ajinkya	
12.	Shri.Prabhakar Mohile	
13.	Mr.Y.S.Shah	Uralab, Mumbai
14.	Mrs.Lagoo	(Photographer)
15.	Dr.M.R.Vora	Pfizer, Mumbai

Dr.Parpia in his introduction on the theme of the regional workshops on Traditional Foods emphasised the following points -

* The social importance of Traditional Foods
* The Nutritional superiority of Traditional Foods
* Economics - Survival of Traditional Food manufacturers depends on quality, convenience and price.
* Standards for globalisation of Traditional Foods
* Already MNCs are interested in export of TF's
* Changing society and living pattern - urbanisation
* Industry should make products for institutional use and home use : e.g. pickles, chutneys, murrabas.
* Traditional food products represent a turn over of 30-50 times that of so called western style food products.

If this TF industry is to survive it must be placed on a new foundation :

* Has to develop
* Nutritional needs
* Prevent losses
* To meet the challenges to feed it 50 million people by 2000 AD
* To save energy
* To make products of world standard
* To develop equipment
* To develop integrated packaging to improve shelf life 10-20 times
* To earn foreign exchange
* To eliminate drudgery and emancipate women who have to go to work
* To meet urban demands where 50% of India will live by AD 2005
* The First objective would be to involve scientists into
* The TF industry and industry into science

The industry should educate scientists about their needs

* Secrecy of the premature type would be suicidal
* Development research and R&D used as an integrated approach.This should be a continuous process.
* Develop information service
* Better management
* Better finance utilisation
* Better marketing

* A compendium of Tradtional Food manufacturers and Traditional Food machinery manufacturers will be complied based on quality, profitability, availability etc.

* The workshop is not a trouble shooting exercise
* It should make positive recommendations. Based on problems faced by the trade food industry so as to promote this industry as a competitive unit

WELCOME ADDRESS
Dr.P.J.Dubash

I welcome you all to this very important Regional Workshop on Traditional Foods in Mumbai. I welcome all the participants who have accepted our invitation to attend, some to speak, have product displays or demonstrate Technologies & manufacture of Traditional Foods. I welcome the Director of UDCT, Prof M.M.Sharma for inaugurating this Workshop & Dr.H.A.B.Parpia who is the Chairman, Panel on Traditional Foods, MFPI, for coming from Mysore to present the theme of this Regional Workshop in different parts of India. I also welcome Prof.P.R.Kulkarni from our Division for delivering the keynote address. I also welcome on the Dias my friend Dr.S.R.Padwal-Desai of BARC.

Indigenous Traditional Food Technology has by and large been neglected in our research programme for a long time - the trend is now shifting in recent years when the nutritional and other aspects of the traditional foods is being realised. We import technologies and machinery in different fields but traditional foods however are typical of the regions: they are carbohydrate rich, mostly vegetarian (though many traditional foods are based on Meat, fish and poultry like balchows, pickles, vindaloos, biryanis, etc). Traditional Foods are spicy and radically different from Western foods in composition, texture, recipes, flavours and taste. Indian dense snacks, staples and sweetmeats have no equivalent in Western dietary.

The manufacture packaging and marketing of traditional foods has to be put on a scientific footing giving importance to good quality raw materials adequately stored, upgradation of raw materials, adapting existing machinery and equipment where possible or developing new devices for their manufacture.

Shelf life can be optimised by hygienic production and proper packaging. The induction of science and technology in traditional foods will lead to globalisation of the foods. The country has a good base of raw materials based on agrihorticulture, fishery, dairy and poultry. These basic commodities are available in plenty and in great variety for developing and modifying technologies for traditional foods and to make the world aware of the nutritional and organoleptic benefits of our snack foods, savoury items and sweets. Aggressive marketing strategies will lead to popularisation of Indian cuisine and traditional foods in the West. The popularity of curry clubs in UK is a pointer to the rich traditional heritage of India would be a treat compared to their own bland foods. We have to be careful about the quality of these foods and packaging costs need not be a restrain or global marketing. Our small and cottage industry today makes snacks, sweets, flaked and puffled rice, vermicelli, grain and tuber flour crispies, sabudana, papads, pickles, chutney, preserves, premixes and a variety of RTE foods based on milk, flour, sugar and jaggery, spice mixes, dry fruit, etc.

We have a good programme for this Workshop. Many of the speakers are traditional food manufacturers with some others trying to generate discussions with their talk on Traditional Food machinery, ready mixes, packaging and marketing. This will foster a synergy which will culminate in the open panel discussion, a summary report and recommendations which will look at the future sustained growth of our traditional food industry. This will not only lead to inter regional transfer but making traditional foods popular in the global village.

packaging and marketing strategies. This industry has to be strengthened so that it can withstand pressure from multinational who are rapidly entering the Traditional Food marketing on a Global Scale.

Prof.P.R.Kulkarni, Head, Food & Fermentation Technology Division, UDCT gave a keynote address on Traditional Foods of the Western Region and highlighted the need to develop new machinery, proper packaging system for shelf life, extension for effective marketing of these multiprocess products.

Hon. Mr.Suresh Prabhu, M.P. and Member, Public Account Committee in his Valedictory Address effectively spelt out the opportunities for availing financial support from various agencies for the small scale Traditional Food Industry. He emphasised the role of this industry in creating mass employment and discussed schemes for tax abolishment and offering subsidies for ensuring the economic viability of such units.

A lot of traditional food manufacturers and machinery manufacturers attend the workshop, had product displays, video presentation and demonstration of machine for Khoa making.

Based on the discussions some important recommendations were made.

- Improve quality parameters of raw food commodities responsible for process worthiness.

- R&D efforts in a concerted manner on traditional food products, process and machinery with a view to uniform quality, better shelf life, enhanced scale and efficiency of production. This will bring costs down and increase volume of sales.

- Long shelf life should be preferably without use of preservatives/additives, with adequate packaging.

- Take advantage of new trends in nutrition science by using raw foods rich in fibre, vitamins etc. Use of PUFA oils to build up a nutritional superiority of Indian Traditional Foods.

- Devise several short term courses for traditional food manufacturer with financial assistance from Ministry of Food Processing Industries.

- An All India Traditional Food and Machinery Manufacturers Association (AITFMMA) should be formed with appropriate logo for National Marketing.

- A standard logo (Quality Produce of India) for export of not only Traditional Foods but any food product packed and exported from India.

- In view of the quality of Khoa (mawa) coming from interior rural regions to city manufacturers of mithais, infrastructure should be developed for mechanical collection, chilling centres etc. Formation of a Khoa co-operative on the lines of milk cooperatives.

- Financial institutions should, without collateral advance loans up to Rs.20,000 for a viable competitive industry manufacturing traditional foods. Highest priority to R&D in traditional food and machinery manufacturing.

- Establish industry oriented centre for traditional foods and machinery design and manufacture, train food technologists by including in the curriculum, to enlighten them about the nutritional, cultural and socio-economic importance of traditional foods. Arrange visits for students to Traditional Food manufacturing industries to get first hand information. Committed Food Technologists should be willing to work for the Traditional Food Units to put them on a strong scientific box.

- Traditional Foods and raw material, should be free from all taxes, octroi etc. for free National movement and interegional transfer.

- Concerted time bound program to achieve above objectives by Government agencies, research organisations advertising and marketing people, packaging institutes, traditional food industries, machinery manufacturers, export houses, etc.

Keynote address by Prof.Pushpa R. Kulkarni at the Semianr on "Traditional Foods" at Mumbai, ...

Traditional foods have always occupied a unique position in the dietary practices of any country. They have been based on the locally available raw materials and the available cooking expertise. Observation ability, Innovative naiure and curiosity of humans have contributed heavily to the development of traditional foods. India has been blessed with all types of climates ranging from tropical, temperate and cold. Thus, it has a vast resource of all types of food crops. The list of varieties of cereals, legumes, tubers, roots, fruits, vegetables, nuts, fish, sea foods, meat and dairy foods available in different regions of India is endless. Naturally, the traditional foods of India have been based on judicious utilisation of all types of raw materials. The Indian traditional foods have emerged over the years under the excellently blended influence of culinary expertise practised by the Aryans, Arabs, Moghuls and Dravidians. Variation in these foods is very vast and probably the type of foods common in one region may not be known in many other regions of India. Most of the time the preparation of traditional foods is considered more as an art and the scientific as well as technological aspects of many of these foods are still far from established.

The important general process operations for traditional foods include preliminary processing, preparatory processing, finishing operations and packaging. The routinely used operations in all these steps are summarisd in Table 1. The well known principles of food preservation like sun-drying, salting, use of preservatives like salt and sugar, fermentation, have been practised in the Indian households for centuries providing us with the well known products like salted fish, dried fruits, murabbas, pickles, papads, ghee, butter, fermented milk products, etc. The classification of Indian traditional foods based on shelf life and raw materials is shown in Table 2 and 3 respectively. Each region has some characterisitc, typical food ingredients which make the foods different from those from other regions. Some of the food ingredients typical of Maharashtra and neighbouring Westem regions are shown in Table 4.

A short list of some typical Western regional traditional foods is summarised in Table 5.

The food processing operations in India can be categonised as (1) Basic post harvest operations involving essential basic operations to convert farm produce and marine catch into basic commodities (2) Manufacture of basic ingredients like Sugar, Khandsari, Jaggery, Corn/Topioca starch, Glucose/Syrup, Honey, Vegetable Oils, Salt, Vanaspati, Butter Ghee, etc. (3) Manufacture of Indian made Western Foods - bakery, fruit products, alcoholic, carbonated beverages, milk powder, tea, coffee, chocolate, etc. (4) Traditional processed food industry.

In general, the traditional food preparation has been mainly restricted to unorganised secter including domestic scale, food service establishments and cottage scale. Most of traditional processed food items produced by small units are consumed as anxilliary items in meals or as snacks and sweets. These include flaked and puffed rice, Vermicelli, grain and tuber flour crispies sabudana, dried wafers, shreds, puffed legumes, dals, varieities of papads, pickles, chutneys spice mixes, curry powders, milk and tea masala adjuncts, fruit preserves, gulkand, sweets based on milk, flour, sugar, jaggery, spiced, scented suparies, pan masala, premixes for a wide variety of ready to eat snacks etc. Many times these suffer from inconsistent quality and production under unhygieneic conditions. Normally the production is carried out by experts who may otherwise be unaware of health hazards associated with consumption of products made unhygienicly or by using unsafe ingredients. Most of the operations may be manual with hardly any process control and the end point judgement is by "experience".

Increased urbanisation, scarcity of domestic help, increasing employment of housewives have generated need for readily available, time saving, processed or convenience foods including staples other daily dietary items, and products needing special culinary expertise. A few leading industries have also recently entered into manufacture of some of such products. Thus the changing socioeconomic scene suggests that in near future there exists an opportunity for mass local market for traditional products. The export potential for such products is convincing not only due to the increasing number of Indian expartriates abroad but also due to the potential for their popularisation in the West, just as has happened with Chinese, Spanish or Mexican foods. Since there are no equivalents to the countless Indian staples, sweets and snacks in the Western regimen, the Indian products can stand out as exotic items in this respect.

Thus, considering the vast scope for these products even the Indian food industry in the organised sector must now orient itself to indigenise and manufacture dietary items consumed daily by millions. The organised sector should establish a massive food industry culture in this respect by indiginisation. For successful manufacture of these traditional foods quality control of ingredients for ensuring uniform and consistent quality products, stanardisation of recepies on the basis of nutritive quality, palatability, size and shape for possible mechanisation, establishing hygiene and sanitation norms for different products, creating awareness about hazards associated with use of microbiologically unsafe raw materials and preparation under unhygienic premises are also highly essential.

Optimisation of processes, machanisation of the operations, development of new machinery and equipment or adopting known imported units to the indigenous materials and processes where possible, study of and improvement of shelf life of the products and development of suitable packagings for each product must also be tackled.

For successful manufacture as well as export of traditional foods following are the recommendations. R&D inputs on indegenous food products and processes to ensure uniform quality, better shelf life as well as enhancement of scale, efficiency of production to bring down the cost, leading to enhanced consumption would be essential. Aggressive marketing strategies must be adopted for popularisation and increasing exports of these products. In this respect, the Indian traditional foods can be given publicity based on benefits of plant foods in general, of fibre vit. E, vit. C, B-carotene, specific PUFA, etc., so that their nutritive superiority could be highlighted.

Recent trends in the country have brought out a positive need for food service centres at least in urban areas. There seems to be a growing demand for central kitchens to supply to restaurants, institutional canteens. Also outlets for short lived products not requiring expensive packaging but hygienic production have been in demand. It is for the food scientists and technologists and the food industries to take up this challenge of catering to needs of the masses by proper planning and R&D efforts and establish the traditional food processing industry on a strong base.

Table 1

Important Process Operations for Traditional Foods

Preliminary Processes	Preparatory Processes	Finishing Operations	Packaging
Washing, Sorting, Precleaning, Grading, Dehusking, Milling, Size reduction, Sifting, Peeling	Chopping, Cutting, Dicing, Slicing, Shreading, Pulping, Juice extrn, Straining, Wet grinding, Mixing, Mincing, Kneading, Extrusion	A.Thermal processing: Cooking, Steaming, Baking, Toasting, Roasting, Frying, Grilling, Parching **B. Fermentation:** C.Seasonig, Drying & Pickling	**I. Packing in:** Airtight containers, Bottles, Jars, Earthernware Pots, Polybags, Boxes **II. Wrapping in:** Leaves of available trees

Table 2

Classification of Traditional Foods based on shelf-life

Traditional Foods

Ready to eat (RTE) products			Products needing some processing	
Products with shelf life < two days (to be consumed when fresh)	Products with shelf life between 1-5 days (at refr.temp.)	Products with reasonable shelf-life of about 15 days	Products with an extended shelf life of about 1 year at r.t.	With shelf life of about 2 days	With shelf life of >6 months
e.g. Bhajias Poha varieites Vada " Pakora " Samosa " Kabab,etc. Raita, Bharit Pachadi, etc	e.g.Milk based sweets, Halwas (Veg.), etc.	e.g.Sev Chakli, Fried legume, products, Chivada, Laddu, varieities, etc.	e.g.Pickle, Murambba, Chunda, Metkut	e.g. based on rice, flakes, puffed rice, etc Chips	e.g.Papad, Sevaya, Sandge,

Table 3

Classification of Important Indian Traditional Foods based on Raw Materials

Milk based (Dairy) (M)	Fruit/Vege-table based (V) (G)	Grain based (L)	Legume based (GL)	Grain + legume based (F)	Fish based / Mutton based	Miscellaneous
Masala milk @	Pickles + @	Chapati	Boondi & its	Puranpoli ▲	Fish pickles+	Chikki varieties ▲
varieties	Murabbas+@	Roti	products	Uttapa	Balchow +	Sabudana products
Basundi	Chunda	Poori varieities	Sev+, Ghanthia+	Chakali▲	Vindaloo	Coconut based
Mattha	Chutneys+@	Phulka	Papdi +	Muruku ▲	Saguti	Chutney varieties▲
Lassi @	Pachadi	Nan-kulcha	Mohanthal	Kadboli	Kheema ▲	Tuber chips
Shrikhand @	Raita (M)	Sanjori	Dalmuth +	Bhel +	Kabab ▲	Curry arieties
Dudhpak	Bharta	Parotha (V)	Fried Dals +	Khichdi*		
Phirni	Halwa Gajar* ▲@	Bhakri	Thalipeeth	Kachori		
Kharwas	Halwa Dudhi	Jilebi*	Misal	Chivda ▲		
Kheer (G)*	Chips	Imruti	Meduvada*▲	Idli*+		
Payasam (G)	Pheni	Papadi	Dahi vada*▲	Dosa*+		
Pedha ▲	Toddy	Cereal Chips	Potato vada	Telpoli		
Burfis ▲	Neera	Fenya	Dal vada ▲	Kadabu		
Gulabjam*▲@	Vadi varieities	Sevaya @	Besan ladu			
Rasagulla*+@	Amras @ ▲	Shankarpale	Khandvi			
Chamcham		Upama	Papads+			
Rasmalai		Sheera*▲	Mysorepak/Mesur			
Kulfi*		Rava Ladu	Chhole*			
Paneer		Rava Vadi	Pakoda varieties			
Mishtidohi		Nankatai	Sandge +▲			
Falooda*		Karanji varieties	Kurdaya			
		Samosa (V)(F)	Khakra ▲			
		Chiroti	Thepla ▲			
		Ghivar	Kofta (V)			
		Sutarpheni	Vadis (M)			
		Modak	Usals			
		Anarasa	Misals			
		Ghavan				
		Pulav varieities				
		Bhat varieities				
		Halwa Bombay & Mahim +				
		Gram based Chakali▲				
		Pohe & Kurmure based products				
		Papads + @				
		Amboli and Appam				

* Instant mixes developed; @ Manufactured in organised sector;
\+ Exported; ▲ Having export potential

Table 4

Western Regional Foods
Some Typical Ingredients

Sweetener	Jaggery
Seasoning Agents	Ajowan, Asafotida, Curry leaves, Fenugreek, Mustard, Sanchar Salt, Sesame, Triphal
Flavouring Aids	Ambemohar leaves, Turmeric leaves, Cardamon, Nutmeg, Lemon grass
Acidulants	Tarmarind, Kokum

Table 5

Some Typical Western Regional Traditional Foods

Staples :	
Bhakari	(Rice, Jowar, Bajra, Corn)
Ghadichi Poli	(Wheat)
Puri	(Wheat)
Bhat	(Rice)
Meal Components :	
Amti varieties	(Curries)
Dhanshak	(Dal)
Solachi Kadhi	(Kokum)
Sali Boti	(Meat, Potato)
Titori	(Legume)
Zunka/Pithle	(Besan, Kuleeth, Messor Dal)
Usals	(Legumes, Dals)
Xaguti	(Mutton)
Shark, Crab, Oyster, Kalav, Fish preparation	
Kandamool	(Mixed Vegetables)
Undhiyu	(Mixed Vegetables)
Chutney varieties	(Coconut, Sesame, Groundnut, Dry Fish)
Pickle varieites	(Bhokar, Mango, Lemon, Fish, Chilli, Other Vegetables)
Muramba	(Mango)
Chunda	(Mango)
Morawala	(Amla)
Papad varieties	
Thecha	(Chilli)
Pachadi	(Vegetables)
Koshimbir	(Vegetables)
Fast Foods :	
[illegible]	[illegible]

RTE Sweets :

Laddu varieties	(Boondi, Rawa, Besan, Sev, Churma, Nuts)
Chikki varieities	(Nuts, Jaggery)
Khaja	(Besan, Jaggery)
Karanji	(Coconut, Maida, Sugar, Jaggery)
Badami Halwa	(Maida)
Mahim Halwa	(Maida)
Gheevar	(Maida)
Sutarpheni	(Maida)
Chiroti	(Maida)
Vadi varieities	(Nuts, Milk, Rawa)
Mesur	(Besan)
Mohanthal	(Besan)
Shankarpali	(Maida)
Pedha, Burfi,Shrikhand, Basundi & Other Dairy products	

RTE Savouries :

Chakali	(Rice Chanadal)
Kadboli	(Mixed Legumes)
Bakarvadi	(Maida, Dry Coconut)
Kachori	(Maida, Moongdal)
Khakra	(Wheat Flour)
Thepla	(Besan, Fenugreek)
Khandavi	(Besan)
Vadis	(Vegetables, Besan)
Dhokla	(Dal)
Gathia	(Besan)
Papdi	(Besan)
Fapda	(Besan)
Chivada varieties	
Dalmoth	

Speciality Items :

Puran Poli	(Chanadal, Jaggery, Maida)
Tel Poli	(Chanadal, Jaggery, Maida)
Sanjori	(Maida, Rawa, Sugar)
Modak	(Rice, Jaggery, Coconut)
Sandan/Dhondas	(Jaggery, Cucumber, Jack fruit, Rice)
Dinkache Ladu	(Gum, Semolina, Nuts)
Amboli	(Fermented Rice)
Vada Bhat	(Rice, Vadas)
Masale Bhat	(Rice, Vegetables, Prawns)
Aamras	(Mango)

Desserts :

Kharwas	(Colostrum)
Phirni	(Rice)
Kheers	(Rice, Semolina, Sevayas, Sugar, Coconut, Jaggery)
Halwas	(Vegetables)
Kulfi	(Milk)

Beverages :

Panhe	(Raw Mango)
Pheni	(Cashew Apple)
Kokum	
Jamun	
Karwanda	
Masala Milk varieities	

Mukhshuddhi :

Supari varieties	(Masala, Amla)
Tambul varieities	

Miscellaneous :

Gulkand	(Rose Petals)
Amba, Phanas Poli	(Mango, Jack Fruit)
Ragi based infant food	

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PART I

REPORT ON DELIBERATIONS DURING THE REGIONAL WORKSHOP ON TRADITIONAL INDIAN FOODS, MUMBAI

The inaugural session outlined the scope and expectations of the Indian traditional food industry. Instances were highlighted to improve the nutritional quality of these foods, like use of Rajgeera in traditional food products like chikkis, farsans. Although the traditional food industry is a tiny-cottage-small industry, its combined output, at a fair estimate, is more than 30-50 times the output of the so-called western foods. There are more than 20-25 thousand traditional food manufacturers excluding the primary processing units.

These foods have been traditionally made in the households through the centuries, initially to utilise the raw material in the region. They are unique in their nutritional benefits. They are carbohydrate rich, spicy and radically different from the Western foods in composition, texture, recipes, flavours and taste. Traditional foods in different parts of India have developed independently of each other, utilising the local raw materials and the food habits of the people of the region. Thus traditional foods of one region are not even heard of in another. These regional workshops sponsored by the MFPI, Government of India, seeks to encompass all the traditional food manufacturers of India into an all India compendium which will be as exhaustive as possible.

These products are made with no conscious effort to control quality and shelf life. The need of the hour is to induct food science and technology concepts in the manufacture of traditional foods, introduce new low cost packaging concepts and use of GMP to improve the shelf life and marketability of such foods in a wider region - statewise, inter-regionally and finally for export. Newer marketing concepts need be developed. Many such foods have crossed national boundaries and are popular throughout India - Idlis, Dosas, Wadas, Jelabis, Gulab Jamoons, Rossogollas etc. These are also available in ready mixes.

The session began with many traditional food manufaturers, machinery manufacturers, marketing (and packaging) experts interacting with scientists and technologists. These small scale manufacturers discussed their problems in a forthright manner. What generally emerged form these discussions was :

1. Shelf (market) life was not adequate and increase in shelf life was desired.
2. The scale of production was limited.
3. Packaged convenience and other products attracted multi-point taxation - tax on packaging materials, excise duties, octroi, sales tax etc

4. Khoa (mawa) manufacture and trade leaves mush to be desired. The microbiological quality is a constant threat to consumers of khoa based sweets; there is no cold chain facilities for storage and transport, long hold-ups at octroi check nakas and problems of quality testing at public and private laboratories which are time consuming

The speakers included Mr Jayasukh Kakkad of JK sweet Relations, who is making Dry Fruit chikkis and sweetmeats He does not use milk or mawa, nor any artificial colours, flavours and preservatives or starch With these restrictions, he has a problem of how to increase the shelf life which is only 2-3 days. His production capacity is also limited.

Mr. Jayant Lajawala of Laija Foods making ready precooked mixes of vegetable pulav, biryanis, upamas, sheera etc. highlighted the problem of multi-point taxation. He is keen to export his products.

Mr. Kailash Ashar - a dairy consultant highlighted that traditional milk based sweets made were not standard There is variation in chemical composition , organoleptic properties and the microbiological quality is very poor.

Mr. Pradeep Jain talked of khoa manufacture and trade. Khoa (mawa) is traditionally made in a kadai with constant scrapping There is some burning and loss of material The khoa is collected in baskets or plastic bags which may not be cooled or refrigerated for over 24 hours. When it goes to rural cold storage, there is sometimes no power - In general, there is a lack of cold chain. Transporting khoa to urban centres is fraught with problems Traditional khoa sweetmeat makers purchase the cheapest khoa which is usually the one coming from farthest rural centre. Khoa trade from rural to urban centres attracts octroi. Sometimes there is an inordinate delay at octroi check nakas. Analysis of khoa takes 4-5 days by private laboratories, minimum 15 days to maximum may be 2 months by public analysts. The khoa quality is not good in general.

In this context Mr. E.S. Rane/ D.J. Yadav of Solar Arks, Kolhapur talked of Khoa making machines of various capacities based on diesel power or LPG. They gave a demonstration of machine made khoa using LPG with 30 Litres of milk (on 5th Oct. 1996) which took about 25-30 minutes. This gives a more hygienic khoa with no burning but the problems outlined for cold chain and trade remains.

The session on food machinery for traditional foods outlined problems and high costs for developing machinery for various types of foods. Mr. Anil Chittar of Appropriate Projects, Pune and Mr. B.R. Bedekar, Consultant, Pune however said that using their own ingenueity, they have developed machines and equipments, sometimes by modifying existing ones.

Today machines for sev, farsan, bhujia making for fried products are available, making 2 tons product / 8 hours shift.

Machines to make 2000 idlis / hour are in use. Semi automatic and automatic papad making machines are available but only 5 % of papad are machine made.

Chapati making machines are available and have a good scope in cities for institutional use.

Raw mango cutting machines of small capacities have been made and are useful in pickle making.

They expressed the need to develop the machinery to make pedas, laddus, chikki, tilgud, jilebis etc.

Mr Rajendra Mehta of Foram Foods has developed a kurmura making machine by single screw extrusion of gelatinised rice which has advantages over puffed rice kurmuras Powdering machine made kurmuras to a small mesh can give weaning foods. He also talked of papad making machines and gave a video presentation of chapati making machine. Power requirements work out to Rs. 1.50 to 1.60 /Kg product based on 300 days /year manufacture.

Hon. Mr. Suresh Prabhu in the Valedictory address emphasised that marketing of traditional foods will not be difficult as you do not have to sell an idea or concept. - People know about these foods. Marketing a local traditional products outside the traditional area is a challenge. People are aware of the nutritional value, taste, texture and emotional value attached. For auspicious days certain traditional foods have to be eaten - he mentioned eating pohas on Diwali konkan areas, without which celebrations seem incomplete.

Traditional food manufacturing can ensure mass job creations and has a socio economic importance. Mr. Prabhu insisted that such foods must be exempt from any type of taxation. This will ensure better returns to farmers and better pricing of traditional foods for consumers.

Bankers are always sceptical for sanctioning loans for "Western" type products and processing ventures; they need to know if the product will sell. Traditional foods are a different matter and he ensured financial support for such foods will be easily available, particularly, he said, if someone wants to start a traditional food manufacturing venture in the Kokan region.

It was suggested that short shelf life products like instant mixes for which user choice is limited would be more appropriately marketed through Vyapari Peths or Apna Bazars which are more reliable and reasonable than retailers.

This is the broad outline of what the speakers discussed and the problems which emerged.

Part II will outline some discussions and interactions from experts and list out the recommendations of the workshop.

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PART II
SUGGESTIONS AND RECOMMENDATIONS OF THE WORKSHOP

As a result of a day and half of deliberations and discussions on Traditional Indian Food Products of Western region, several important points were addressed.

The traditional Indian food items have been made small and cottage units. There is a great potential for the growth of these industrial units and there exists a vast scope and an acute need to optimise these processes, develop machinery and equipment or adapt known machines to indigenous materials and processes. To study and improve shelf life of these products and develop and recommend suitable packages.

i) Uniform raw materials with consistent quality has to be procured - backward link with supplier quality checks on raw materials. Proper storage of raw materials to minimise or prevent quality degradation or spoilage.
ii) The flavour mix should be uniform and standardised - there should be no variation - quality checks for volatile oils, oleoresins etc.
iii) Minimum or inexpensive packaging consistent with required market life.
iv) Determination of shelf life. What is optimum ?
v) Determine scale of production.
vi) Employ Good Manufacturing Practices (GMP).

RECOMMENDATIONS : Scientists should go to the manufacturers, study their process, identify problems, probably indicate critical control points to get good hygienic product of uniform quality. Microbiological quality of raw materials and product. As a long term measure traditional food manufacturer should employ Food Scientists and Technologists, set up quality control laboratory, for analytical checks and technological improvements.

For KHOA, Mr. Bedekar suggested use of PFA permitted preservatives like sorbic acid to delay spoilage.

Infrastructural facilities like a cold chain - storage and transport - alternate methods of cooling - to keep khoa in good condition and microbiologically sound till it reaches users.

A co-operative for khoa collection and marketing on the lines of the milk co-operatives should be set up. Quality parameters checked and payment made pooling khoa

and transporting under chilled / refrigerated condition Quality and price uniform for sweet manufacturers. Khoa making machines installed at collection centres with government subsidies.

RECOMMENDATIONS : There is need to establish quality testing laboratory in every milk based traditional product manufacturing.

A standard product should be developed
Energy saving devices should be adopted.
Microbiological safety testing. Aflatoxin testing

Final product developed based on two standards.
1. Consumer acceptance for regional taste
2. A National standard for marketing throughout India; packaging, preservation.

In all traditional food products manufacture an integrated plan of action is necessary. Abolishment of all taxes, excise, octroi legislation to this effect is important.

In the session on food machinery development recommendations are

1. Since custom made machinery and equipments of various capacities for different types of traditional food have to be devised and developed. This becomes a costly affair. Some R & D work is required.

Food machinery manufacturers / designers for traditional foods should get some subsidy from MFPI for R & D activities.

2. Machinery and equipment manufacturers should provide spares for machine sold to traditional food manufacturers for a minimum 3-5 years.

3.The cleaning and sanitation of the machinery / equipment after days traditional food manufacture is important. machine/ equipments should be easily cleaned. Easy to dissemble and assemble for CIP, COP cleaning. This information, the type of cleaning compounds and rinsing /sterilisation procedures must be made available to users.

4. Development of alternate low cost technology like solar dryers and other low energy systems need to be developed.

5. Ovens for baking pav, nankhatais, sutri biscuits, khara biscuits must be standardised to get uniform products.

RECOMMENDATIONS :We must establish an industry oriented centre for traditional foods and machinery design and manufacture, train food technologists, enlighten them on the nutritional / cultural significance of traditional foods. It was recommended that institutions UDCT, CFTRI, agricultural universities who train food scientists and technologists should arrange visits by students to traditional food manufacturing units to

get first hand information. Committed food technologists / scientists should work for traditional food manufacturers and not go for glamour of joining MNC's.

FINANCE & MARKETING

RECOMMENDATIONS : Reorientation of financial institutions without collateral a traditional food manufacturer should get upwards of Rs. 20000 from Bank for a viable industry making traditional foods - Help of Mr. Suresh Prabhu. Fix amount for an economically viable unit, competitiveness in market Highest priority to R & D in traditional food industry MFPI should help.

Dr. PARPIA

Marketing of traditional foods is not salesmanship! Find purchasing power of the customer (about 10 million people have purchasing power).

What products are you going to market ?
What is your unit pack ? What is your selling price ?
All these has to be projected.
If convenience foods, some preparations is necessary.
Print clear instruction on package.
Find where your customers are.
How would you reach them ?

Another RECOMMENDATIONS

To manufacturers who want to export products (Globalisation)
Consistent high quality ISO 9000 certification
QC and QA
Consistent high quality raw materials, process,
final product,
raw material QC
process control
final products QC

Packaging cost not a criterion for export.

These capabilities must be achievable by the exporter.
(Probably an International Logo for all traditional foods, machines exported to indicate high general quality)

An All India Traditional Food and Machinery Manufacturer's Association (AITFMMA) may be formed with an appropriate logo for national marketing.

The directions in which the efforts to modernise and urge traditional food industry to greater heights are :

- There is a wealth of raw materials available due to rapid increase in farm commodity by improving farm efficiency, employment of modern agri-horicultural sciences, livestock and poultry rearing practices, fish and aquaculture; plant tissue culture etc.

- Improve quality parameters of raw food commodities responsible for process worthiness.
- Basic commodities presently exported in native form can be converted to value added traditional food products
- R & D efforts in a concerted manner on traditional food products and processes with a view to uniform quality, better shelf life, enhanced scale and efficiency of production and bring costs down. This will increase volume of consumption.
- Take advantage of new trends in nutrition science that have brought to light benefit of plant foods, dietary fibre, foods rich in vitamins (E and C), beta carotenes; use of PUFA oils to build up a nutritive superiority of Indian Traditional Foods
- Concerted plan time - bound programme to achieve above objectives by government agencies, research organisations, universities (Food Scientists and Technologists), advertising promotion and marketing people, packaging institute, traditional food manufacturing industries and machinery manufacturers, export house etc.
- Aggressive marketing strategies to popularise Indian cuisine and traditional products in the West. Exports will follow (Long shelf life without use of preservatives / additives with inexpensive packaging)

Devise and conduct some short term courses for traditional food manufacturers.
(With some financial assistance for these courses from MFPI)

1) Short course in dairy sanitation and traditional milk products, quality control and checks.
2) Finance and marketing of traditional foods (with help frpm IIMs, IIP, Marketing Experts, Finance Institutions, UDCT, CFTRI etc.)
3) Non conventional energy sources : for manufacture of traditional foods (help from Ministry of Non-conventional Resources)
4) Development of texture, taste, nutritional parameters and safety aspects of traditional foods (machinery manufacturers, nutritional scientists, UDCT, CFTRI etc.)

NOTE : We have not discussed real traditional fast foods served in carts /stalls. These includes

1. Vada Pav (Potato vada freshly made hot in small pav). The common man's Hamburger, sold at Rs. 2-2.50.
2. Pav Bhaji (Bread with vegetables fried with masala) Standard pav bhaji masala paste - Chordia Foods.
3. Bhel Puri / Pani Poori.
4. Ragada Pattice.
5. Chhole Bhature
6. Jhunka Bhakar
7. Malpuvas - also sold packed like other packed foods Khakaras,
   Khaman Dhokalas.

Mumbai is a melting pot of cosmopolitan hotch-potch. People from all over India have come to Mumbai and made it their home As a result, there are so many different types of traditional foods available in Mumbai, representative of all cultures of India. For discussion, however, those foods with a typical Maharashtrian-Gujrati-Goan origin will be listed below. The Parsi influence is merged somehow with the Gujrati tradition; but traditional Parsi food have come out richer and have their own typical flavours and textures, recipes and formulations. Some Parsi foods are eaten on auspicious days like SEV and RAVO / MALIDO, Dal-ni-polis are particularly eaten in February-March of the year - the Parsi month "Avan" in celebrations of oceans and rivers. During wedding celebrations, sandhras-kumas are particularly made. Some of these are listed in foods of Maharashtra where most Parsis stay in Mumbai.

Some traditional foods of Maharashtra / Gujrat / Goa are listed below.
(not a comprehensive list)

MAHARASHTRA (Parsi influence also)

Milk Masala	Kulfi Mixes	Suterfeni
Tea Masala	Paneer	Malpuva
Shrikhand	Falooda	Nankhatais
Dudhpak	Aamras	Aam papad
Phirni	Aamchur	Bhakaras
Barfis	Chapats	Dai-ni-polis
Mahim Halwa	Masala Dal Mixes	Kopra Pak
Aflatoon Halwa	Gajar-Meva Achar (Parsi Pickles)	
Besan Laddus	Sangde	Misal
Usal	Thalipeeth	Papads
Vermicelli	Chikkis	Bhelpuri
Anarsa	Ghavan	Kadboli
Pav Bhaji	Vada Pav	Jhunka Bhakar
Neera / Toddy	Modaks	Khajas
Kumas (Toddy Cake)	Sandharas (Baked)	

GUJRAT

Farsan	Sev, Ganthias	Khakkras
Dhokalas	Papadi	Oondhyoo
Kachoris	Surti Paneer	

Mango Chunda (Some are common to Maharashtra)

GOA

Balchows	Vindaloo	Pork Sorpotel

Fish / Roe Pickles / Bombil Pickles Sanna (Rice noodles in coconut milk)
Dhonus (Jackfruit cake) (Jaggery, rice semolina grated coconut + jackfruit pulp)
Dhansane (same as Dhanus but with cucumber)

Supplemental list is in cook books, which are already sent

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DATA CARD

1. NAME OF THE PARTICIPANT :

2. NAME AND ADDRESS OF THE COMPANY :

3. TRADITIONAL FOOD PRODUCTS MANUFACTURED

   1)
   2)
   3)
   4)

4. DO YOU HAVE PROBLEMS ABOUT

   i. SHELF LIFE EXTENSION ?

   ii. PACKAGING OF YOUR PRODUCTS ?

   iii. MARKETING OF YOUR PRODUCTS ?

   iv. ANY OTHER ?

5. DO YOU USE MACHINERY FOR MAKING YOUR PRODUCTS ?

6. WOULD YOU LIKE TO MECHANISE YOUR PRODUCTION ?

7. ARE YOUR PRODUCTS AVAILABLE LOCALLY / IN THE STATE / EXPORTED ?

PLEASE ATTACH YOUR VISITING CARD

Production and Marketing of Traditional Foods

Before we talk about the Traditional Foods and its scope for development of technology, let us first find out what is the present position of the processed food industry in our country. This knowledge is essential to visualise the scope of Traditional Food industry in our country. We can group the present industries into three categories.

1. Large scale Food Industries where the market is ever-expanding but Government Licence is a problem.
2. Food industries where because of the wrong choice of the products, Industries have not shown good results.
3. Traditional Food products where scope for growth is unlimited.

Food industries where market is expanding

In this category of Food industries, we talk about only those groups where the aggregate turnover of each group is over Rs 2000 crores per year.

a) The first in this list is the milk and milk product industry. Milk products include Milk Powder, Baby Food, Malted Milk, Condensed Milk, Butter-Ghee, Cheese, Ice-Cream and others. This milk product industry is now reserved for Government agencies and cooperative sector. The industries which are already established in the private sector, including the multinationals do not get permission to expand their activities. Products like Ghee and Indian sweets do not require any Central Government licence. The margins in the sale of fancy milk product is so large that milk collectors squeeze the last drop of

contd f....

milk from the villages, leaving nothing to the family of the milk producers. An unfortunate situation which will reflect on the health of the youngsters in the years to come.

b) The second large scale industry is the aerated waters and the soft drinks. Here, the market is expanding rapidly, margins are very good, competition is tough, capital investment is very heavy. At the moment strong marketing pressures are employed by one to kill the other. In the bargain inovative efforts to bring new type of drinks like Cherry Cola, fruit punches are not being attempted. Those in small sector not aspiring for all India market and who are out of the excise net also make good money. Great scope to those who can come with new type of soft drinks.

c) The third is alchohol-base industries comprising of manufacture of Beer, Whisky, Rum and similar other products. Here also the market is expanding and in spite of the competition, each manufacturer and each seller mints money. Beer industry now falls within the perview of the Food Processing Ministry and being a Food Industry, it is expected to grow fast. However, Licence to start a new unit or expansion of the existing unit is very difficult.

I have included the soft drinks and alcholic drinks in the Food Industries as both the products have Food Value as against Tea and Coffee which are not included in this list.

contd 3.....

d) The fourth in this category is the Bakery Industry comprising of Biscuit, Bread, Cakes etc. The consumption of Bakery products is increasing both in urban and rural areas. The large scale manufacturers are eager to increase their capacities and offer new varieties of Biscuits. Unfortunately, this industry is reserved for small scale sector. This is a wrong decision on the part of Government as it has encouraged unhygeinic production and use of cheap and harmful ingredients by the small manufacturers. There are hundreds of small Biscuit and Bread making units which operate in filthy conditions, causing great risk to the health of consumers, especially when the target group is children. Only large scale manufacturers who have the facilities to keep a quality control on their products should be encouraged.

Industries with wrong choice of product

In this category are the industries which were started due to the influence of marketing experts on the new comers in the Food Industry. These experts felt that they can sell any products in the Indian market just because it is being sold in the western world. This presumption was proved wrong. Most of the industries mentioned below are not running even to 33% of their installed capacity. Huge capital is blocked in such ventures, as machinery has been imported at a very high cost. Industrialists who had spare money to invest and who wanted to diversify in the Food line have all fallen a prey to the advise of their Technical and Marketing Consultants in choosing such wrong products and are now repenting. We

contd 4.....

name a few such industries.

1. Pasta products like Vermiclli, Noodles etc.
2. Extruded puffed foods.
3. Large scale potato wafer plant.
4. Soya preparations.
5. Processed fruits and vegetables.
6. Chocolate.

All these products are selling well in the western market but none have attracted the Indian taste buds and being expensive have resulted in their non-acceptance on the scale which it should have been.

Industries where products are of Traditional nature

In this category are the Traditional Food products for which future is bright. To be really successful, they should -

1. Be as per traditional "Home Taste".
2. Should have all the qualities of a home-made product and impart a sense of 'wholesomeness'
3. Convenient to store
4. Convenient to Cook
5. Convenient to Serve

Further to be really convenient, they should only require the addition of Hot/Boiling water or heating/cooking time to be ready to serve. Some of the products are

1. Dehydrated but easy to reconstitute foods like pulav, curried dal mix, alu chhole, avial mix, upma and sweets like kheer, payasam etc.

contd 5.....

2. Ready to eat Retort pouch packed foods like Alu Chhole, Suji Halwa, Pulav, Chana, Meat, Chicken preparations and many others. A very large range of traditional food varieties can be offered using this technology. Here the packet is heated in warm water or oven, opened and consumed.
3. Chapati or Roti.
4. Frozen Puri and Samosa and such other preparations which could be taken out from the Refrigerator, fried and consumed.
5. Sun dried or oven dried mango papad, jack-fruit papad Banana chips and such other preparations.
6. Fried products like chiwda, shev, chakli, moorku, pharsan etc.
7. Indian sweets like Pedha, Barfi, Rasagulla, Gulab Jam, Jilebi etc.
8. Pickles and chutneys of the typical Indian type.
9. Papad and similar sun or oven dried products.
10. Ready to make preparations like Idli Mix, Vada Mix, Dosa Mix, Gulab Jam Mix and such like products.

Everyone of you sitting here can add to this list and yet the list would be incomplete. The marketing of these products is easy as you are not forcing anything unknown on the consumer. You are only making the production on large scale and packing it properly for its preservation. A Branded factory packed product would certainly attract the consumer even if he has to pay a higher price for the same.

contd 6.....

=: 6 :=

Equipments to manufacture Traditional products

Till recently the food machinery manufacturers of our country were not willing to diversify their activities for making equipments required for the manufacturing of Traditional products. Things have changed now and scores of Food Engineering Companies are eager to participate in this new trend of development.

The fabrication of large scale Idli producing units, the large and small chapati making units, automatic extruder cum friers for making shev-pharsan, equipment to make GulabJam, machines to make khowa and Pedha, modifying the available sugar confectionery machine to make Barfi are all indications of this new trend. The young engineers are now ready to accept the challange of making any type of equipments that is needed to make the traditional foods on large scale.

I am confident that before the turn of the century, the attitude of women from the middle class would change towards acceptance of such packed food products. A time would come when her kitchen would consist of only a freezer, an oven and a small frier. Any type of traditional food which she otherwise wanted to make in the house should be available at the shop. She can have the satisfaction of giving a variety of foods to her family which she otherwise is not able to give because of the various constraints.

contd 7.....

I for one would feel satisfied if I could pick up from the stores, ready to eat Punjabi Alu Chhole, Gajar Halwa, Sarsoo Ka Sag, Parotha, Chicken Biryani or the Gujrathi Ondhio, Moong Halwa, Maharashtrian Sakhar-Bhat the Puran Poli or the typical Karnataki Bise Bela Bhath, the Parsi Dansak or Parsi Fried rice, the Andhra varieties of vegetable kurma and Gongura chutney, the South Indian preparations of the dozen odd payasam, Avial, the Dal Bathi of Rajasthan or even the North Indian Jilebi. All these products are being tried at various places for their making on small scale and it is for we the Indian Food Technologists to accept the challange to facilitate making these on large scale and relieve the Indian housewife from the druggery of making such products.

The future is bright and is evident from the fact that institutions like CFTRI, DFRL and the Scientists at the Food Technology Institutes in the country have accepted these traditional products as the basis for developing Food Processing Industry of the country.

Thank you.

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Paper presented on the
Founder's day of A.F.S.T.
Bombay Chapter on 20th
September, 1990

20.9.90

U.D.C.T (BOMBAY)

TECHNOLOGY MODIFICATIONS FOR DEVELOPMENT OF TRADITIONAL FOODS

MR. S.R. JAVALGEKAR

I thank Dr. Padwal and Dr. Dubhash for giving me this opportunity to speak a few words in this Seminar.

We in India have a misconception that our traditional foods lack modern technological roots. We are looking to the West all the time for fast foods, Pasta, Pasteries etc.

I am proud to say that our country is world's number one fast food eater in matter of variety, taste. These items vary from place to place even village to village. Even in meals, side dishes vegetarian or non vegetarian varieties run in thousands.

Our ladies by generations know about the basics of traditional food processing viz;

1. Preparation of grains, pulses, vegetables, meat, fish.
2. Flour Grinding and flour blending for various purposes.
3. Mixing of various types of dough, sheeting, stuffing, cutting etc.
4. Cooking, baking roasting, frying.
5. Drying for storage.
6. Gelatinisation e.g; for making rice papads.
7. Preparations and storage of pickles, morabas, chutney.

Since independence our Technological Institutions, catering colleges and food industry has done yeoman service in improving these techniques. However, this progress could not keep space with technological advancement in Europe, U.S.A, Japan and Korea. This is mainly due to our misfortune that food processing is not given top priority in our country as been given to petroleum, car, machine building, textiles, etc. Projects worth thousands of crores are allowed in these sector while food industry is totally neglected.

The reasons are:

A. Our technologists are not deputed abroad to see, study and adopt new processes, techniques, machines to suit making of our conventional foods. e.g. Japan used to depute their technologists, engineers in hundreds to visit such exhibitions in Europe and U.S.A. until they achieved present prosperity.

B. Our Agriculture and Dairy Industry is improving by leaps and bounds and now we have surplus production in certain areas which is to be utilized for the end food use. Thanks to the efforts of world organisations and Stalwarts like Dr. Borlag and Dr. Kurien. Moreover, the Agro techs have all the facilities with farmers fields and labs, with the new techniques in practice and Indianise the same.

Our foodtech lack such opportunities at ill equipped labs and food factories, kitchen, with outdated plants, machineries and no finances

Now I come to a very important point that our country's population at the end of this century will be 100 Crores. I presume with the Agro- Horticulture revolution we will have enough grains, vegetables, fruits, milk, poultry. But if the present circumstances exist with food processing are we going to feed these people with textiles, electronics, houses, raw grains. This is a serious matter to ponder otherwise there will be a bloody revolution in our country.

Therefore as majority of the people in this 100 crores population would be from the middle and lower income group. So we will have to draw out and execute a multiprong effort from all concerned to develop a strong base for making traditional foods backed by finance, technology, machine building and sincere national efforts.

FOR THIS I SUGGEST THE FOLLOWING TECHNOLOGICAL DEVELOPMENTS OF TRADITIONAL FOODS.

RAW MATERIALS:-

1 (a). RICE:

Putting up turnkey plants to make reconstituted rice of broken and powdered rice into reconstituted whole rice and mix this product the extent of 10 % with good rice inplace of present practice of adulteration with polished stone rice shaped pieces. HERE IS A SAMPLE EXIBIT A

I have worked on this project successfully and many turnkey units can be set up in our country.

(b). DAL

HERE IS A SAMPLE EXIBIT B

We are importing dal (lentils) and on the otherside we are exporting lacs of tonnes of defatted soya meal. For the last few years, I am working on a turnkey plant for producing reconstituted dal out of Soya Defatted flour. Off course, we will have to adjust the flavour and cooking characteristics to suit Indian taste. Putting a number of units will totally stop imports

2. GELATINIZED FLOURS:-

We should put up a number of automatic gelatinisers to make gelatinised products from coarse grains, pulses etc. for end use in making of

-Chappatis
-Parothas

Out of Jowar, maize

- Bhajias
-Wadas
-Kachhoris

The batters for the last three products can be made of gelatinised flour.

You can make out of gelatinised products items like curry/ soup, chutney, beverage powders, baby powders for the poor children etc.

HERE IS A BROCHRE EXIBIT 2

3. VEGETABLES/FRUITS- PROCESSING/ DRYING:

Thousands of tonnes of vegetables and fruits are sent to faroff markets without grading. This results in 10 to 20 % wastage. If these are graded properly and packed in predetermined weights our farmers will stand to gain. Also accumulation of garbage in markets will be reduced.

The rest of the fruits/ vegetables can be cut in desired sizes and dried in continuous driers. The dried products will have long shelf life and can be marketed throughout the year.

COMBIED MACHINE- EXIBIT 3b

There are combined machines which can do all types of this work. Moreover there is a suggestion that in the same machine vegetables with spices can be cooked. The same can be packed in 250 gms or 500 gms packages and sold with bread or chapatis. In the same way you can mix chutneys, pickles, cook currys etc.

THE DRYER -EXIBIT 3c

In case of the dryer when products are available in plenty those can be dried e.g; apples, ber, guava, mangoes, onions, tomatoes, potatoes, leafy vegetables.

Dried products can be used or sold through out the year. This avoids transport, cold storage costs.

One thing we will have to do with the dryer that we must adopt them for solar heating.

SAMPLES- EXIBIT 3c

4. EXTRUSION:-

To talk about conventional extruded foods will take a separate lecture by itself. However, I wish to inform you that my friend Mr. B.R. Bedekar has designed a completely automatic extruder fryers for making Sev gathia and other savouries. The plant is working very satisfactorily!

5. COOKING:-

Cooked rice and dal is a major dish in the daily meals. I suggest every house should have a solar cooker. This will save a lot of fuel for the country. I am glad to say the cookers are locally available.

6. SHEETING, LAMINATING, CUTTING, BAKING OF PRODUCTS LIKE CHAPPATIS, PURIS, SAMOSAS, KACHHORIS, PAROTHAS, STUFFED CHAPPATIS (PURAN POLIS ETC.)

I am pleased to show you a Video tape which will give you detailed ideas on the latest techniques. In this regards, I am sure you will learn a lots in doing things in a modern way after viewing the film.

Our friend Mr. B.R. Bedekar has worked on the chappati unit and his experience would be also useful to Indian technologist.

7. FRYING AND ROASTING OF MASSES ARE PRODUCTS LIKE KACHHORIS, BHAJIAS, WADAS, KARANJEES, SAMOSAS ETC.

The above mentioned items are to be fried and we use oil to an extent of 20 to 30 percent. And if we bake or roast these products on modern machines then we will have to spray and roast the products with about 5 percent oil. This will save a lot of oil for the country.

I would be pleased to show you a brochure for the modern roaster.

EXIBIT 7

8. PACKAGING OF COLD STORAGE AND ASCEPTIC PACKAGING:-

a. ASCEPTIC PACKAGING: This type of packaging is only meant

for higher income groups i.e. overheads or the outer cost much more than the contents. We should use cheaper plastic materials or where possible earthern pots specially for pickles, morabas etc. This will create a big employment to potential potters in our country and also save a lot of overheads and reduce prices hand the products to the consumers.

I thank you very much for listening to me patiently.

Regional Workshop

on

TRADITIONAL INDIAN FOOD PRODUCTS

at

OLD AUDITORIUM, DEPARTMENT OF CHEMICAL TECHNOLOGY,
UNIVERSITY OF BOMBAY, MATUNGA, MUMBAI-400 019

ON

OCTOBER 4-5, 1996

ORGANISED BY

MINISTRY OF FOOD PROCESSING INDUSTRIES, GOVERNMENT OF INDIA

Dear Sir,

We are organising a Regional Workshop on Traditional Indian Food Products at the above venue during 4-5 October 1996. The Traditional Food Product Industry in India is a small to cottage scale one and getting information about the various types of traditional foods made and distributed in so many localities in India is a gigantic task. The Ministry of Food Processing Industries in India has therefore sponsored four Regional Workshops in different parts of the country to get information about this multi-crore but widely dispersed industry. The Traditional Food Industry represents the largest sector of Food Industries having 30-50 times higher turnover compared to Western processed foods. The Western Regional Workshop will comprise traditional food manufacturers from Maharashtra, Gujrat and Goa. The manufacturers of traditional foods in this region will interact with the food machinery manufacturers, Food Scientists and Technologists, Nutritionists and people responsible for upgradation of quality, hygiene, technology and marketing of traditional foods. The four regional workshops will be followed by a National and Asian traditional workshop where all the information will be collected, computerised and a Compendium on traditional foods , which will become a most valuable document, will be compiled on behalf of the Ministry of Food Processing Industries. We would like traditional food manufacturers, traders, and others like packaging experts, R & D persons, marketing people, nutritionists, food scientists and technologists to come on a common platform to further the interests of traditional foods on interregional and international basis. We would like to restrict participation to about 50 traditional food manufacturers/ traders etc. so that a useful dialogue may be possible. There is no registration fee but since participation is restricted we would like you to register early.

Participation includes several things :

1. Oral presentation (Give title).
2. Product display (Give names and types of products).
3. Live demonstration of traditional food manufacturing in our laboratory (Give name of brand and technology).
4. You can provide us with a series of color photographs of your process and equipments and we will reimburse your expenses for these photographs, if necessary, with proper bills / voucher
5. Videography of the process / equipment with reimbursement as above.

Kindly help us in making the Workshop a success and with the information on traditional food aspects we can be able to serve you better. such a survey has never done before and this is a good beginning to get together for the benefit of the traditional food industry

A brochure is included for your reference: please fill the registration form and send it to us soon

Dr. P.J. DUBASH
Chairman and Contact Person
FOOD AND FERMENTATION TECHNOLOGY DIVISION
DEPARTMENT OF CHEMICAL TECHNOLOGY,
UNIVERSITY OF BOMBAY,
MATUNGA, MUMBAI 400 019.

Tel. (022) 414 5616
Fax. (022) 414 5614
Res. (022) 372 0946

PRESS NOTE

A workshop on "Traditional Indian Food Products" sponsored by Ministry of Food Processing Industries was held at UDCT, Mumbai on 4-5 October. The workshop was inaugurated by Prof. M M Sharma, Director, UDCT who appreciated the rich diversity of Indian traditional foods which was primarily due to the varied climatic conditions and socio-cultural influences in different parts of the country. He also said that while many of the traditional foods were born out of necessity to preserve surplus and were very cheap and tasty, the processes were not always hygienic. Dr. P J Dubash, the Convener for the workshop pointed out that the aim of this workshop was therefore to bring the food scientists and technologists and traditional food manufacturers on a common platform to discuss these and other related problems of the traditional food industry. Dr. H A B Parpia, Former Director, CFTRI and presently Chairman of the Traditional Food Products Panel, elaborated the theme of the workshop by carefully listing the problems and issues involved in transforming the traditional food industry from its present, rather primitive, nature to a modern mechanized and organized industry so as to make it viable. This, he said would require adaptation of GMP, ensuring hygienic quality and nutritional adequacy, standardization of the product quality and effective marketing strategies. He emphasized that combined efforts of the scientists, technologists, manufacturers and management expert were necessary to strengthen this multicrore industry so that it can withstand the pressure from the multinationals who are also rapidly entering in traditional food manufacturing. Prof. P R Kulkarni, in her key note address listed some of the traditional food items from western region and pointed out the need for developing new machinery, proper packaging and technology for shelf-life extension for popularizing these products. She also referred to other major problems of the manufacturers such as heavy taxation which results in cost escalation, transportation and distribution delays, lack of proper marketing outlets etc. and prevailed upon the participants to discuss these issues and make appropriate recommendations to the Government.

In the valedictory session Mr. Suresh Prabhu, M.P. and Member, Public Accounts Committee, effectively spelt out the opportunities for availing financial support from various agencies for small scale traditional food industry. He emphasized the role of this industry in creating mass employment and discussed some schemes such as tax rebate and offering subsidies etc. available for ensuring economic viability of the small scale units.

MINISTRY OF FOOD PROCESSING INDUSTRIES
(PANEL ON TRADITIONAL PROCESSED FOODS)

FORMAT III

ANALYSIS/EVALUATION OF TRADITIONAL FOOD PRODUCTS WORKSHOPS
(MUMBAI, 4-5 OCTOBER, 1996)

1. The total number of participants invited were about 60, although there are many more traditional food manufacturers; of the 60 invited about 40 participated in the Workshop.

2. Others from the off places could not come although participants from Kolhapur and other parts of the State attended.

3. We invited some restauranteurs. Mr. Milind Sovani of Centaur Hotel had agreed and participate but had to go away to South Africa during the Workshop. However, he will send a write-up on Traditional Foods in the 5-Star Culture.

4. R&D institutes like BARC, UDCT, SNDT participated along with several food consultants and other invitees including financial, marketing and other technologists participated in the Workshop.

5. Machinery/equipment manufacturers were also represented by Mr.Anil Chittar of Appropriate Projects and Mr.B.R.Bedekar both from Pune. Another machinery/equipment consultants could not attend due to ill health. Many such machineries are already in use.

6. Participants were mainly from all over Maharashtra. Those from Gujarat and Goa could not attend because of several reasons.

7. In Maharashtra traditional foods of different regions are unique like Malvani and Konkani foods and the Parsi influence in these regions.

8.1 Problems and constrains identified by the Traditional Food manufactueres relating to Technical/Technological reasons were shelf life extension; better hygeinic and handling methods and functional packaging without use of additives. The need for mechanical handling was also expressed. Machinery manufactueres were confident of making such equipment.

8.2 Mr.Suresh Prabhu, M.P. spoke about easier access to finance by traditional food manufacturers without collateral upto a certain sum than for Western style foods where market is uncertain and restricted.

8.3 Power is not continuous particularly in rural regions as mentioned by rural Khoa makers. There is hardly a cold chain network leading to loss in quality. Small and cottage scale manufacturers have no concept of waste utilisation disposal they are very aware of the quality of water used in the manufacturers of Traditional Food and Water Plants have been set up by them Road Transportation is hampered by bad roads, rail and air transport is costly.

8.4 There are no analytical laboratories in the Traditional Food sectors though in time these would be a must when a scientific base is given to the industry. Government laboratories are too overloaded to give results soon and private laboratories also take several days. This results in holdups of perishable products.

8.5 Octroi is a big problem in trade of perishable like Khoa where hold-ups are usual Taxation on packaging materials etc, sales tax increase the cost of packaged traditional foods. Mr.Suresh Prabhu recommended the abolishment of all taxation on Traditional Foods to increase their volume of sale and spread in popularity outside regional limits.

8.6 Marketing of traditional foods by individual and small manufacturers is difficult and cuts into their margin of profit. Traders have their own share of profit and this again raises prices. Places like Apna Bazars and Sahakari Sansthas are a more viable marketing option. Instant ready to use and make products have sometimes no clear-cut information and lack user friendliness.

8.7 Several short term courses will be undertaken for the benefit of the Traditional Food Industry in Management, Finance, Marketing, etc.

8.8 Problems of legislature and regulatory measures were not discussed in any detail.

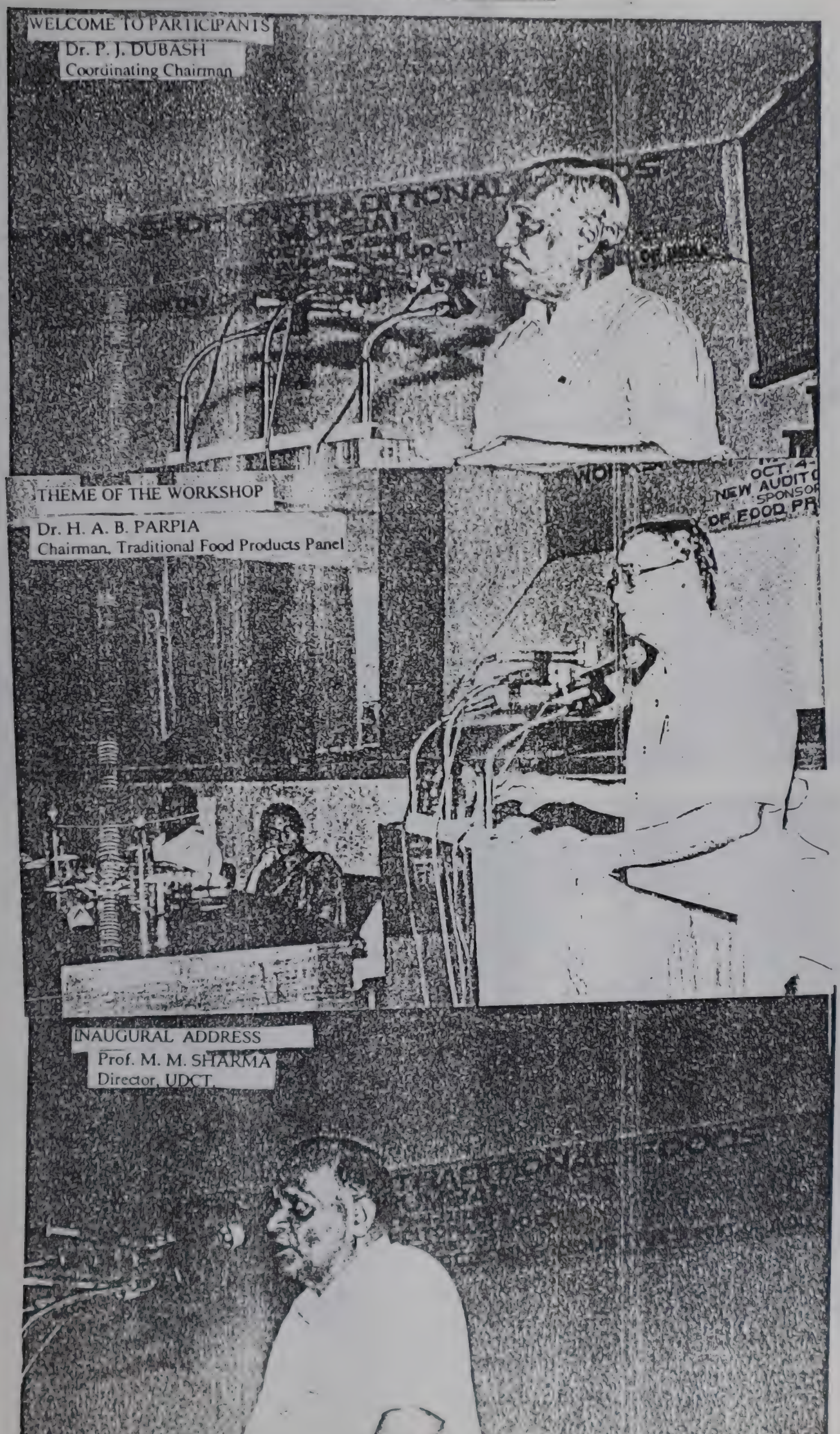
8.9 Human resource development as described in 8.7 and in Food Technology courses by giving orientation and importance to the socio-economic, cultural and nutritional aspects of traditional foods.

8.10 With the interest shown by MNCs in globally marketing traditional foods with their specifications, the reservation of Traditional Foods to the existing sectors, small scale to medium scale is a must to preserve our heritage lest the MNCs start patenting our recipes in global trade.

9. An R&D Centre for Traditional Foods and machinery manufacture should be set up as a central subsidised facility at Research organisations like UDCT, CFTRI, etc. R&D & Product development by indsutry is also welcome when Science/Technology is injected into them.

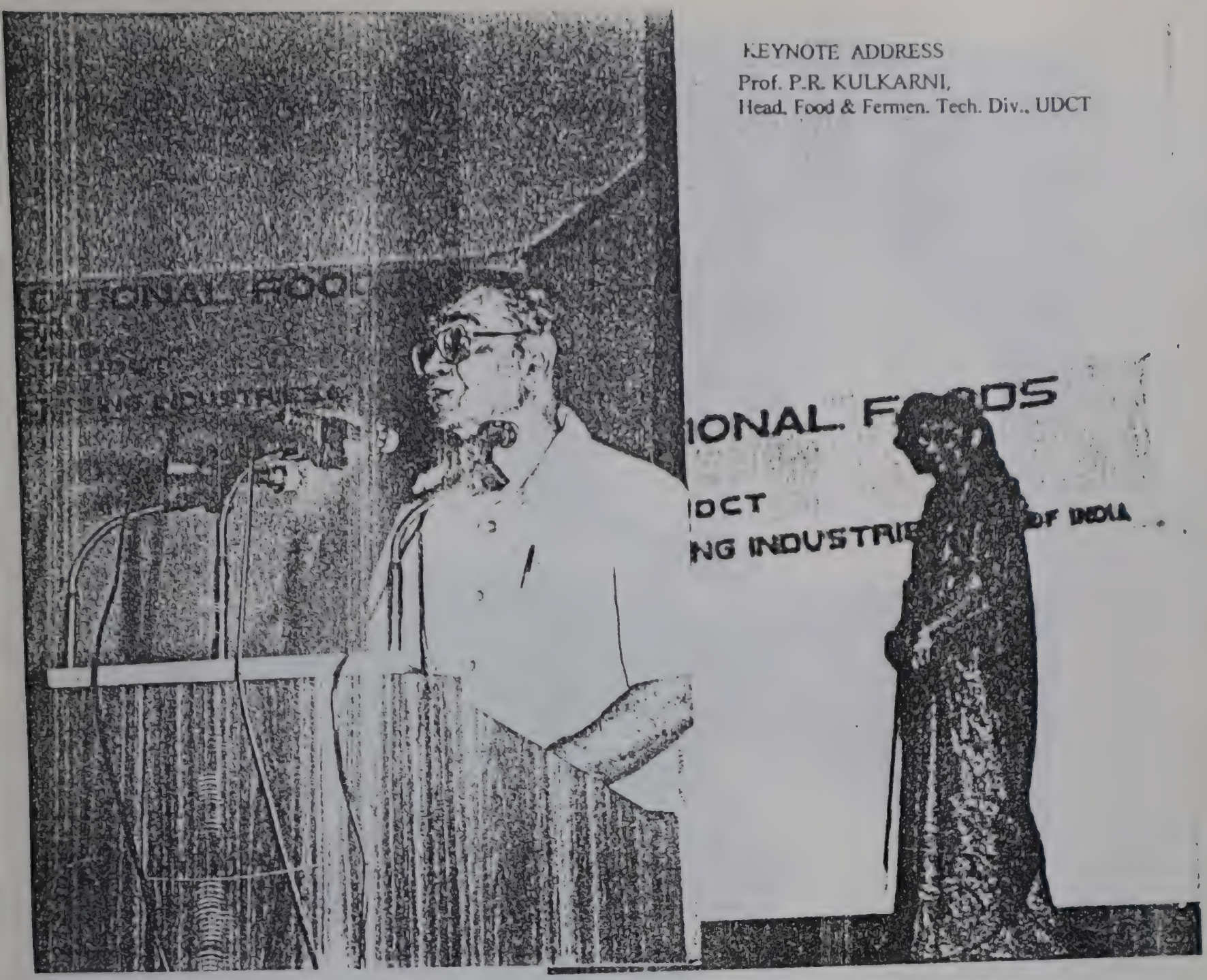
10. These products were elaborated in the recommendations of the Workshop.

11. At the end of the Workshop the working of a Khoa (mawa) making machine was demonstrated. A video presentation of a Chapati making machine and demonstration of instant mix upma, sheera, etc along with product displays and sampling by many traditional food manufactuers were undertaken with enthusiasm.


WELCOME TO PARTICIPANTS
Dr. P. J. DUBASH
Coordinating Chairman
THEME OF THE WORKSHOP
Dr. H. A. B. PARPIA
Chairman, Traditional Food Products Panel
INAUGURAL ADDRESS
Prof. M. M. SHARMA
Director, UDCT

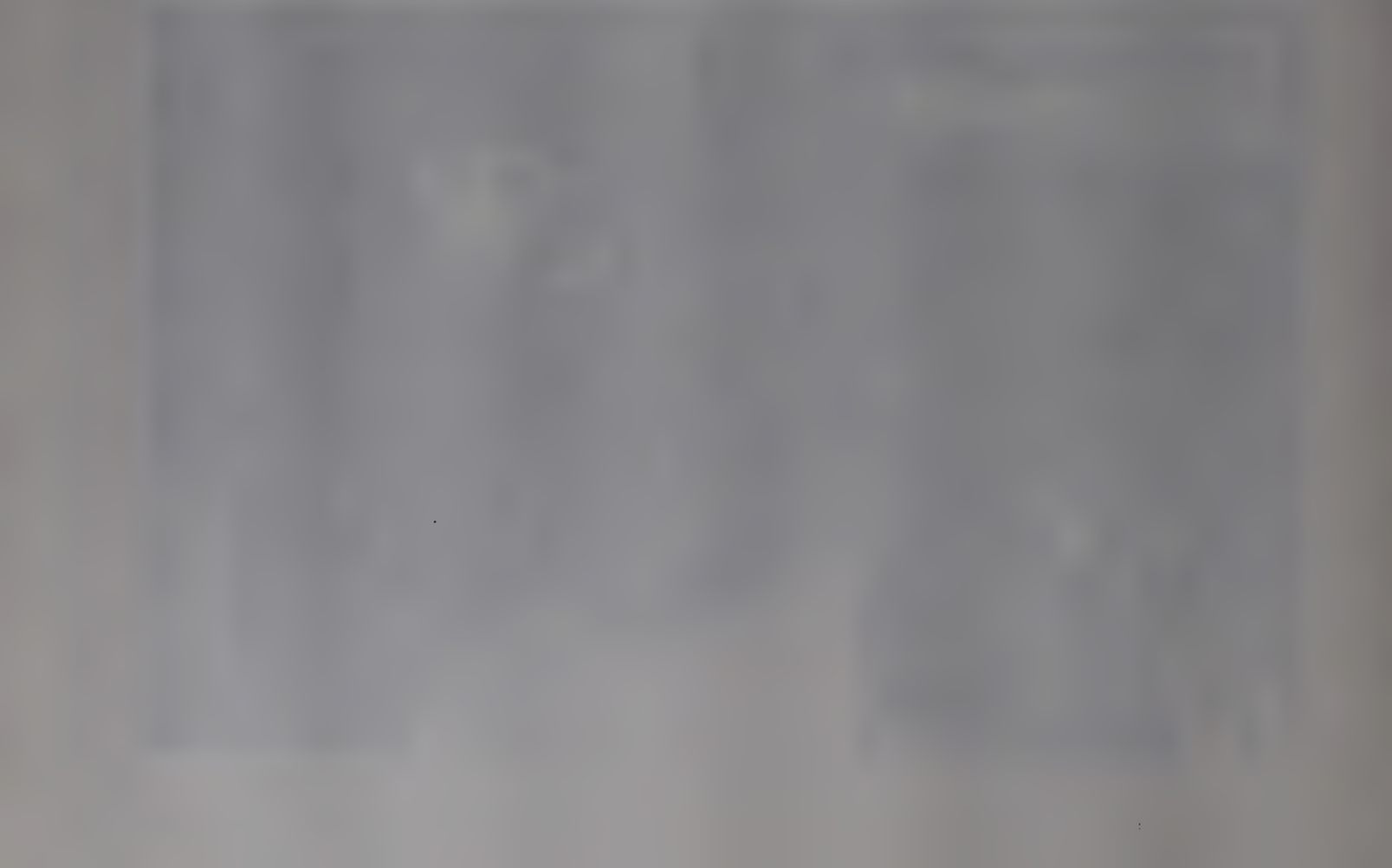
KEYNOTE ADDRESS

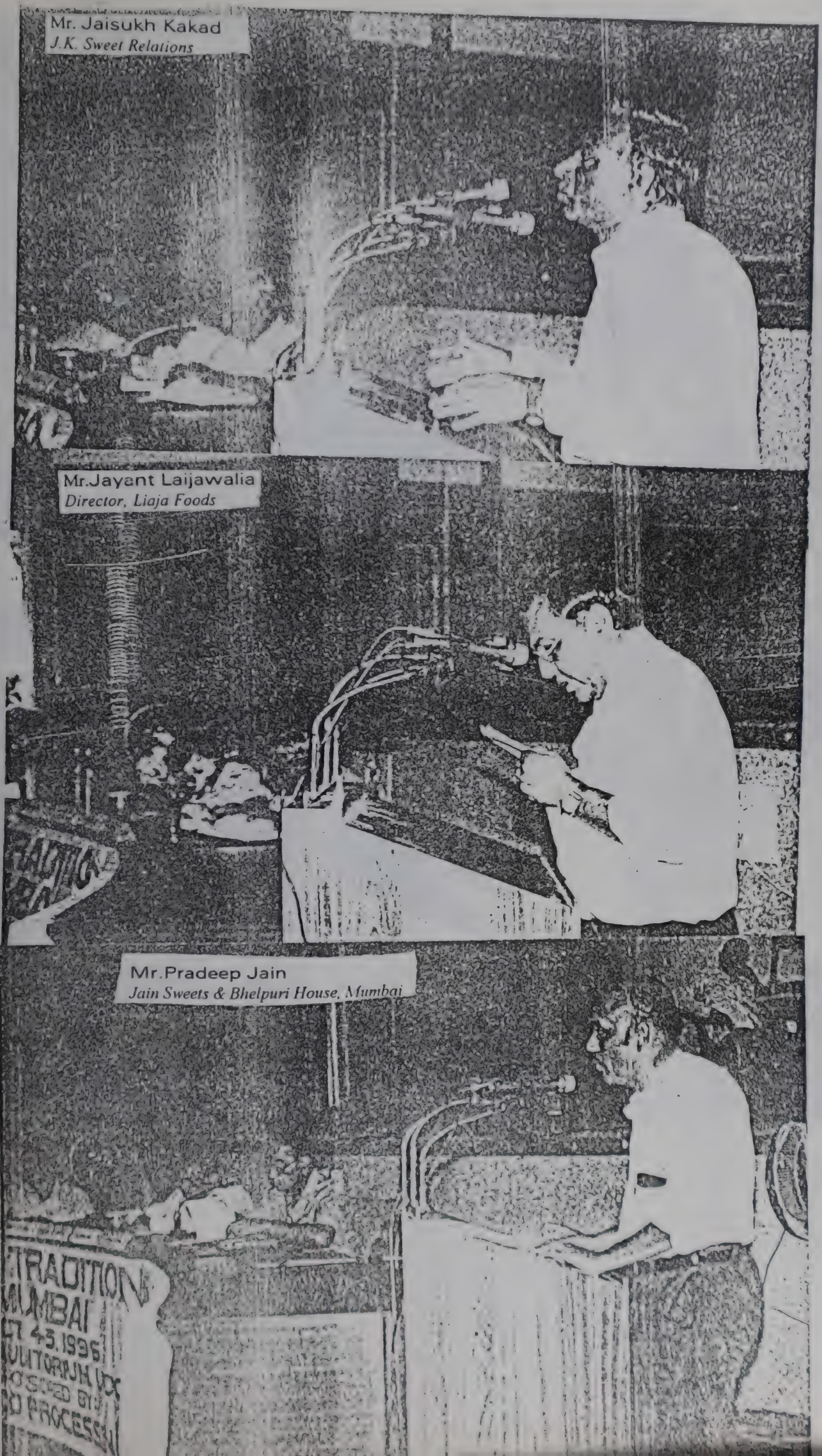
Prof. P.R. KULKARNI,
Head, Food & Fermen. Tech. Div., UDCT

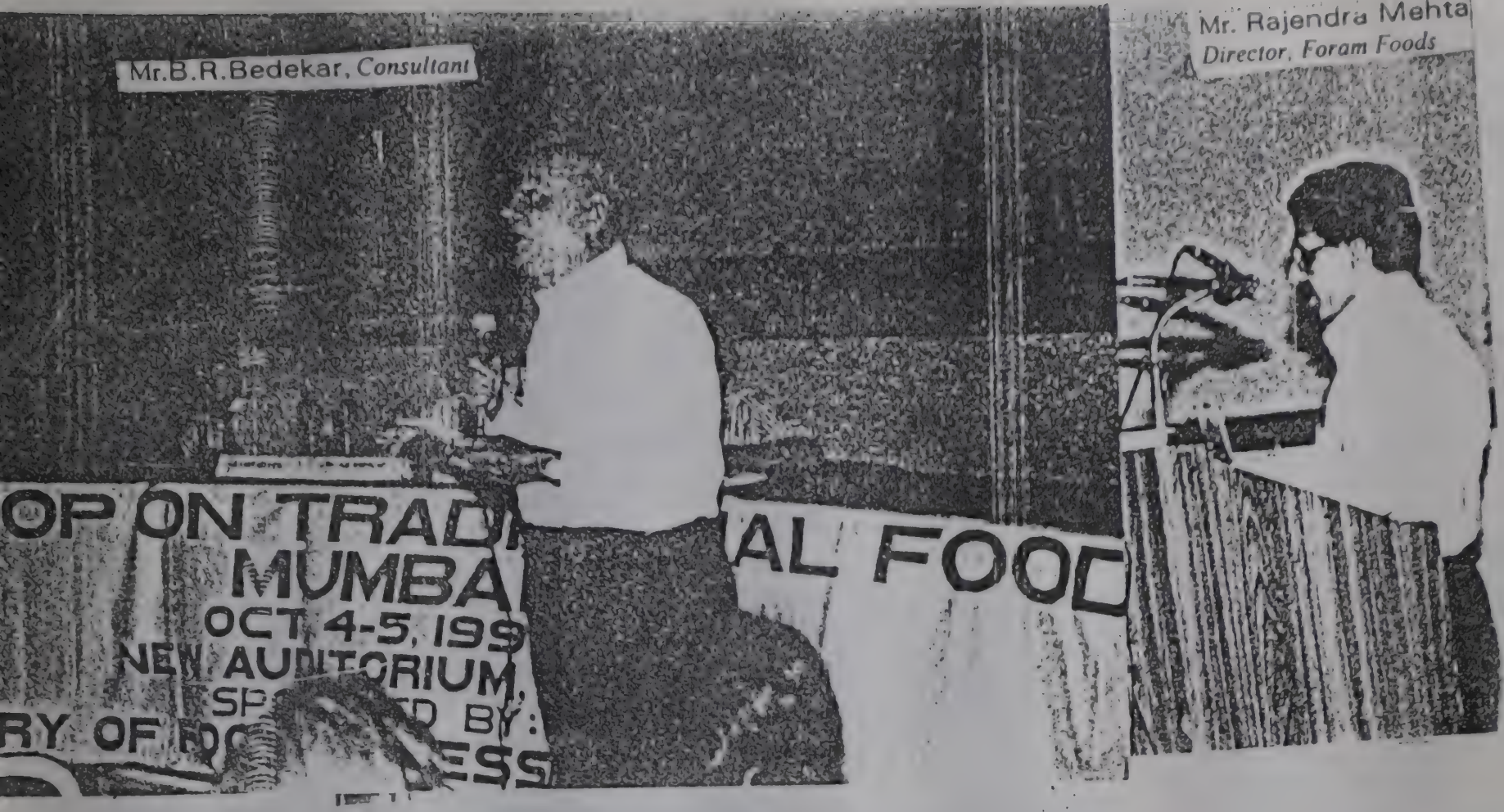


VALEDICTORY SESSION

Hon. Shri Suresh Prabhu
Member of Parliament
Minister, Public Accounts Committee.




Mr. Jaisukh Kakad
J.K. Sweet Relations
Mr.Jayant Laijawalia
Director, Liaja Foods
Mr.Pradeep Jain
Jain Sweets & Bhelpuri House, Mumbai


Mr.B.R.Bedekar, Consultant
Mr. Rajendra Mehta
Director, Foram Foods
OP ON TRADI
MUMBA
OCT 4-5, 199
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RY OF PR ESS
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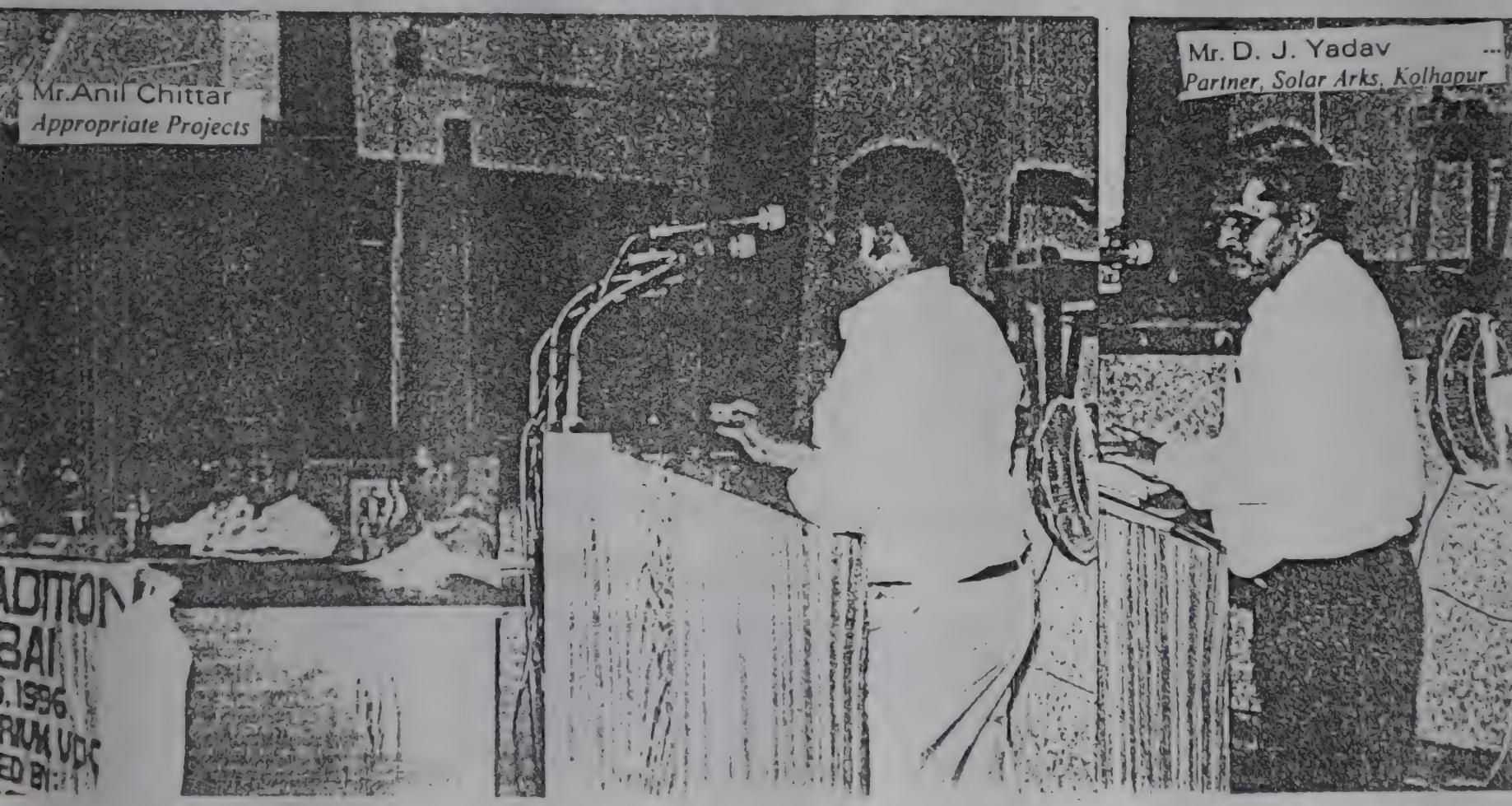
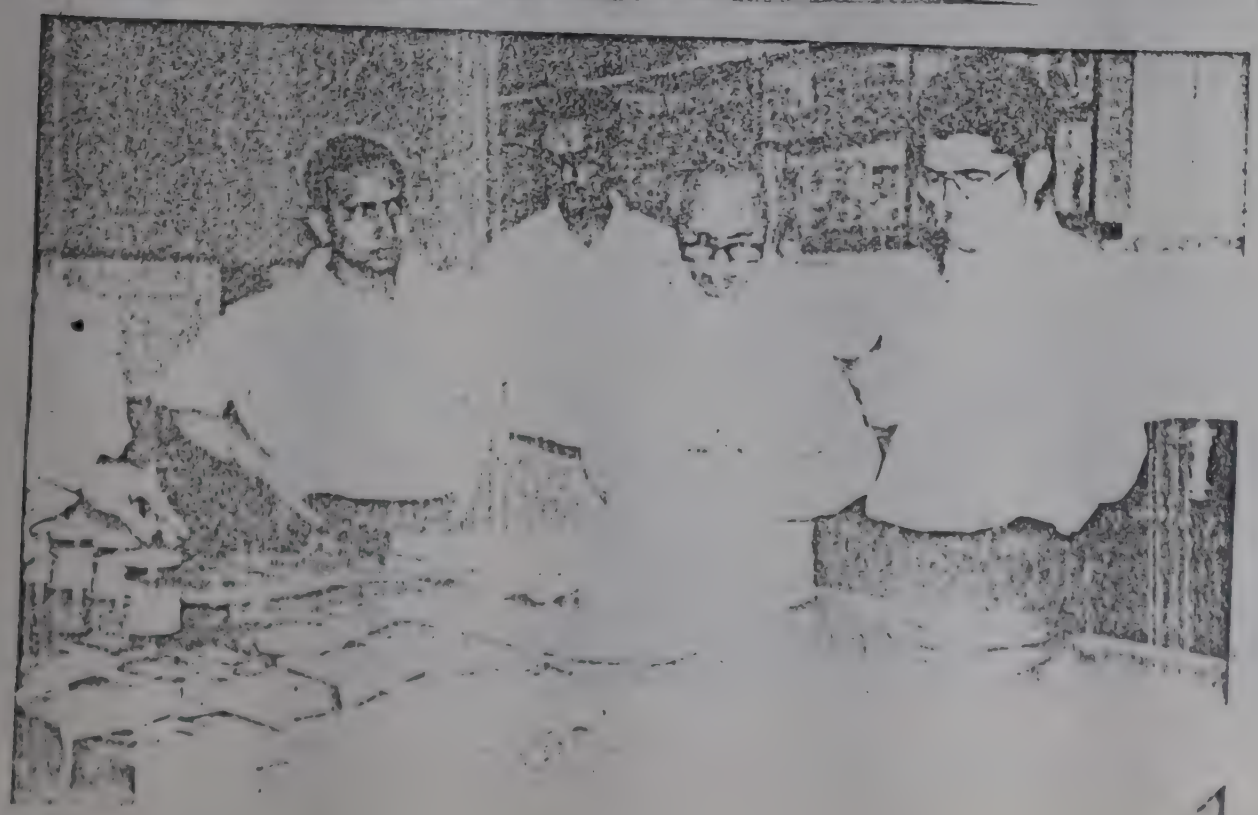
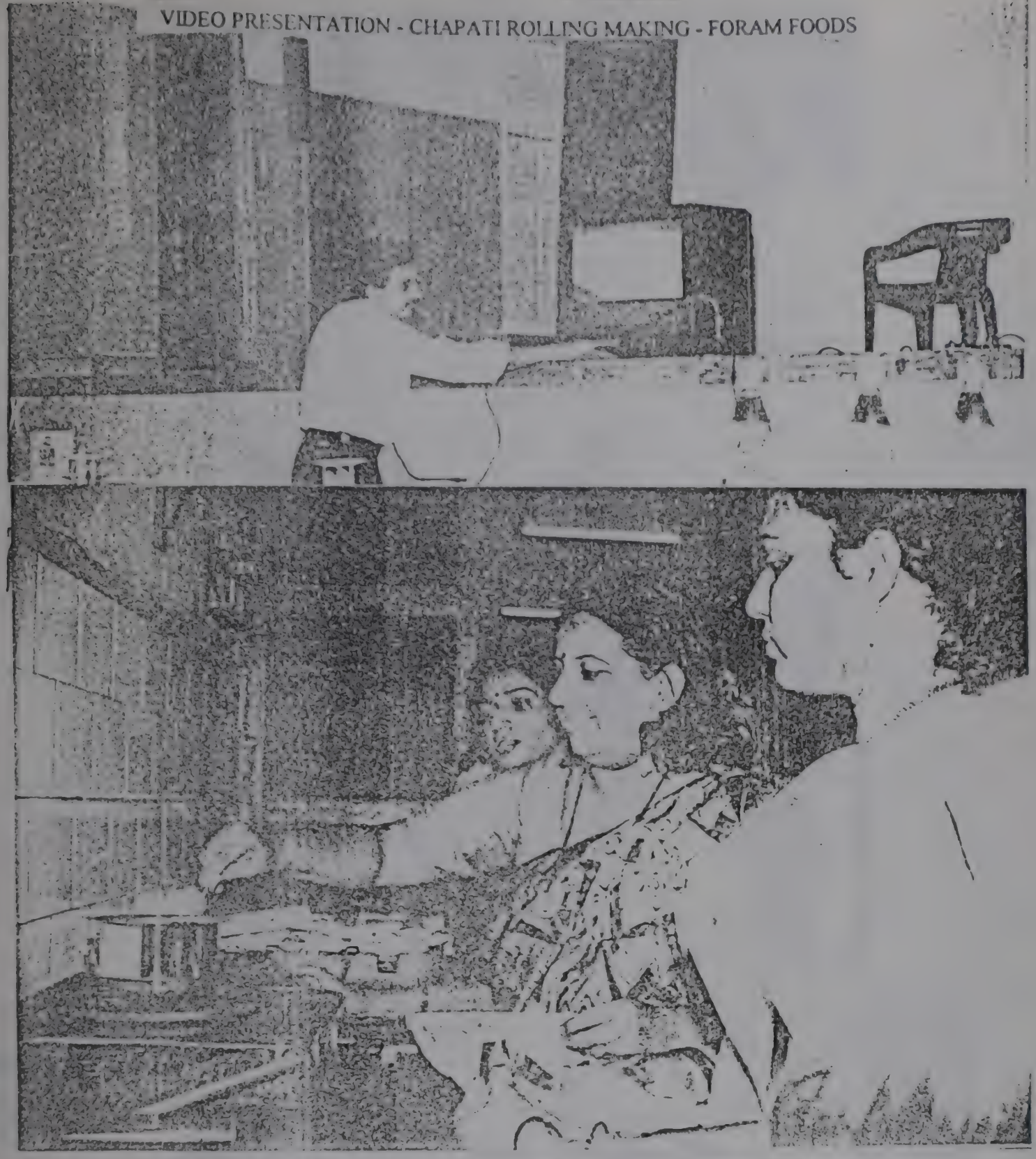

Mr.Anil Chittar
Appropriate Projects
Mr. D. J. Yadav
Partner, Solar Arks, Kolhapur
ADITION
BAI
1996
RIUM VDK
ED BY:

PRODUCT DISPLAYS



VIDEO PRESENTATION - CHAPATI ROLLING MAKING - FORAM FOODS



EXHIBITS - DEMONTRATIONS - DISPLAYS

KHOA
MAKING
MACHINE

SOLAR ARKS
KOHLAPUR

PRODUCT DISPLAY

WORKSHOP ON TRADITION
MUMBAI
OCT 13 1996
NEW AUDITORIUM
LIVELY DISCUSSIONS

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LEAD STORY

Traditional Foods of India

P. J. Dubash and P. R. Kulkarni

Although industrialisation has initiated a progressive change in people's overall outlook and mode of living, this fast growing influence has however not been able to change their food habits at the same rate. Especially, in developing countries, one still prefers to stay "traditional" in his/her food habits. Traditional foods have therefore occupied a unique position in the dietary practices of any country. They have been based on the locally available raw materials, cooking expertise and probably been developed to overcome the monotony at the dinning table.

India has been blessed with a variety of climates ranging from tropical, temperate as well as cold to near freezing, which prevail in different regions at the same time. Thus, India has been very lucky to have a vast resource of all types of food crops. The list of varieties of cereals, legumes, tubers, roots, fruits, vegetables, nuts, fish, seafoods, meat and dairy foods available in different regions of India is endless. Naturally, the traditional Indian foods have therefore been based on judicious utilisation of the available raw materials. Further, the Indian traditional foods have the privilege of having excellent blended influence of rich culinary heritages of the the Aryans, Arabs and the Moghuls. Variation in these foods is very vast and probably the type of foods common in one region may not even be known in many other regions of India.

These foods have been prepared in our country for the past thousands of years and are still liked and consumed by the people. Till recent years, the preparation of such foods has been considered more as an art rather than science. However, it has now been well recognized that the scientific and technological aspects of these foods need a thorough study.

General process operations in the preparation of traditional foods

Like any other food processing, the processing of traditional foods involves steps of 1) Preliminary processing 2) Preparatory processing, 3) Finishing operations and 4) Packaging. The most important process operations routinely used in preparation of traditional foods are summarised in Table 1.

Table 1
Important process operations for traditional foods

Preliminary processes	*Preparatory processes*	*Finishing operations*	*Packaging*
Washing, Sorting, Precleaning, Grading, Dehusking, Milling, Size reduction, Sifting, Peeling	Chopping, Cutting, Dicing, Slicing, Shreading, Pulping, Juice extrn, Straining, Wet grinding, Mixing, Mincing, Kneading, Extrusion	**A. Thermal processing:** Cooking, Steaming, Baking, Toasting, Roasting, Frying, Grilling, Buffing, Parching **B. Fermentation** **C.** Seasoning, Drying & Pickling	**I. Packing in:** Airtight containers, Bottles, Jars, Earthernware Pots, Polybags, Boxes **II. Wrapping in:** Leaves of available trees

Many of the well-known principles of food preservation like sun-drying, salting, use of preservatives like salt and sugar, fermentation, have been practised in the Indian households for centuries, providing us the well-known products like salted fish, dried fruits, murabbas, pickles, butter, ghee, fermented milks etc.

Quite a few of these traditional food products which were prepared at household levels are presently marketed by food processing industries. This is mostly true of snacks and convenience foods. Increased urbanisation, scarcity of domestic help, and increasing employment of housewives away from homes have generated the need for readily available, time saving, processed or convenience foods. This is slowly also

being extended to staple items, as well as many other products, which need special culinary expertise. The export potential of many traditional products has been well recognised and already a beginning has been made in catering to such demands.

The variety and type of traditional foods available in India is so vast that it defies any logical way to list them into various categories.

Classification of Indian traditional foods

On the basis of shelf life the traditional foods can be broadly classified as shown in Table 2.

Table 2
Classification of Traditional Foods based on shelf-life

Traditional foods

Ready to eat (RTE) products				*Products needing some processing*	
Products with shelf life < two days (to be consumed when fresh)	Products with shelf life between 1-5 days (at refr. temp.)	Products with reasonable shelf-life of about 15 days	Products with an extended shelf life of about 1 year at r.t.	Based on Rice flakes Puffed rice Papad Sevaya Kurdya Sandge Cereal chips etc.	Some with shelf-life of 2 days with a shelf life of more than 6 months
e.g. Bhajias Poha varieties Vada -,,- Pakora -,,- Samosa -,,- Kabab etc. Raita, Bharit Pachadi etc.	e.g. Milk based sweets Halwas (Veg.) etc.	e.g. Sev Chakli Fried legume products Chivda Laddu varieties etc.	e.g. Pickles Murrabba Chunda Metkut		

The classification of Indian traditional foods based on raw materials with typical examples is given in Table 3.

Today, traditional food preparation is mainly restricted to domestic scale, food service establishment scale and cottage industry scale. Many times, these products suffer from inconsistent quality and production under unhygienic conditions.

Normally the production is carried out by expert cooks who may otherwise be uneducated, unaware of health hazards associated with consumption of products made under unhygienic conditions and by using unsafe ingredients. In case of some products there are many 'secrets' in the processes, which are not disclosed. Variation in receipes is unlimited, with hardly any process control and all operations are mostly manual. The starting and end points are judged by experience. There is no control over heat applied in different thermal processing treatments.

Though the magnitude of production of these items is substantial at present, the manufacture is mainly confined to the unorganised sector. It is difficult to obtain precise data on the exact number of units engaged in this business. Many of the products have an export potential and are being exported. e.g. in 1987-88, 6360 tons of pickles and chutneys and 3129 tons of papads were exported to countries like UK, UAE, Saudia, USA, Canada. This has necessitated standardisation and quality evaluation of these products by application of scientific principles to their production. This offers considerable scope for restructuring the manufacture, for attaining greater processing efficiency, developing suitable packaging systems and saving labour. Though, since last two decades or so, the Government Food Laboratories in India are engaged in research on some of the traditional products, still many problem areas need to be studied, especially for large scale standardised production of such items. (See box on page 5)

Thus, quality control of ingredients, control over sanitary conditions of production, standardisation of recipes on the basis of nutritive quality, palatability, size and shape for possible mechanisation, are the basic aspects to be considered for large scale production of these items. Mechanised production under hygienic conditions would yield hygienic products of uniform quality but a proper distribution system and taxation problems associated with large scale production will result in increased cost of such products.

Machinery for Traditional Foods

Design of machinery for manufacture of traditional foods would initially be needed especially for small capacity. These would include general prupose cleaning equipments, separators, cleaners, sievers, pulverisers. Grinders of proper design with built in cooling system would be an integral part of the spice grinding needed in different traditional foods. Many indigenous wet grinders, kneaders and mixers of small scale are now available. All purpose versatile machines capable of peeling, dicing, cubing, shredding would have to be developed, though pulpers for fruit products are easily available. For fried products, friers with temperature control, initially for batch and then for continuous scale would be needed. For extruded products, extruders adjustable to different pressures, capable to yielding individual items of desirable shapes like e.g. chakali in a continous manner would also be needed. Though machinery for rolling of papads, chapaties is available developing shapers and stuffers for typical products like ladu, samosa, karanji would be a challenging job.

Processing of traditional foods in larger scales for wider distribution would need to develop appropriate packaging materials and machinery.

Traditional foods and the Indian Food Industry

The Indian food industry has been holding out promises of rapid development and taking a quantum leap for quite some time now, but the potential has not yet been fully realised. Except in certain sectors such as the dairy and milk based products, cocoa products, bakery and confectionery, instant coffee and perhaps soft drinks and beverages, the other industries are lagging far behind. The reasons are obvious, and some of these are listed in Box on page 8. It is considered by and large as an elitist industry and so it is generally burdened with multi-point taxation and therefore is stifled.

If the food industry of the future becomes a need based industry rather than an elitist industry, the Governmental and State agencies also would be forced to have a fresh look at such industries so that the large volume sales of such products would also help bring down prices.

Food habits are very difficult to change and this fact has been ignored by many large-scale manufacturers who in recent years tried to make a big entry into the processed food market, but failed to do so. The list of such casualties is long; to name a few, products like Soyamilk and Tang failed because the Indian tongue is accustomed to a sweetish drink like milk and lassi, mistidhoi etc. Tang was too sour and Soyamilk too fishy and beany and this put-off most Indian consumers.

On the other hand, the small and tiny-scale units have known this all along and have introduced a number of formulated foods based on traditional recipes, which have been well received in the market. However as these are small scale manufacturers; their impact on the market has been more or less local, as they could not afford a larger market spread. Ideally, the more successful of the small entrepreneurs with products that can lend themselves to cross-cultural and inter-regional transfer should team up with large business houses and use their financial and marketing clout to seek a much more wider or even a national spread.

PROBLEM AREAS FOR STUDY ON TRADITIONAL PRODUCTS

1. *Study of role of general and special ingredients in sensory profile and texture of each product.*
2. *Effect of recipe on stability of frying oil in case of fried products.*
3. *Changes in constituents during processing and their contribution to final sensory profile.*
4. *Optimization of frying conditions in the case of fried products.*
5. *Nutrient damage during the adopted processing treatment.*
6. *Minimisation of oil/ghee uptake for fried products.*
7. *Possible mechanisation for production of each product.*
8. *Effect of mechanisation on texture of product.*
9. *Partial or full replacement of ingredients to yield cost-effective product without loss of nutritive quality.*
10. *Extension in the shelf life of short lived products.*
11. *Optimization of packaging and storage conditions of each product.*

The traditional products industry today is totally small to tiny scale. There is bound to be some resistance if it is to be taken over by large organised industries for large volume national marketing. As there are literally hundreds of such small and tiny units in operation today, a lot of people depend on it for their livelihood.

Processed foods in India today are very expensive due to several reasons listed above, and remain beyond the reach of the average householder. Unless this situation is altered by proper fiscal measures, the processed food industry will fail to achieve its full potential. Its entry into needbased traditional products thus remains its only salvation in the hope that a sympathetic eye may be turned towards it.

Table 3
Classification of Important Indian Traditional Foods based on raw materials

Milk based (Dairy) (M)	Fruit/Vegetable based (V)	Grainbased (G)	Legume based (L)	Grain + legume based (GL)	Fish based/ Mutton based (F)	Miscellaneous
Masala milk @	Pickles + @	Chapati @	Boondi and its	Puranpoli∆	Fish pickles +	Chikki varieties∆
varieties	Murabbas + @	Roti	products	Uttappa	Balchow +	Sabudana products
Basundi	Chunda	Poori varieties	Sev +, Ganthia +	Chakali ∆	Vindaloo	Cocount based
Mattha	Chutneys + @	Phulka	Papdi +	Muruku ∆	saguti	Chutney varieties ∆
Lassi @	Pachadi	Nan-kulcha	Mohanthal	Kadboli	Kheema∆	Tuber chips
Shrikhand@	Raita (M)	Sanjori	Dalmuth +	Bhel +	Kabab∆	Curry varieties
Dudhpak	Bharta	Parotha (V)	Fried dals +	Khichdi*		
Phirni	Halwa Gajar*∧@	Bhakri	Thalipeeth	Kachori		
Kharwas	Halwa Dudhi	Jilebi*	Misal	Chivda∧		
Kheer (G)*	Chips	Imruti	Meduvada*∆	Idli* +		
Payasam (G)	Pheni	Papadi	Dahi vada*∧	Dosa* +		
Pedha + ∧	Toddy	Cereal chips	Potato vada	Telpoli		
Burfis +∧	Neera	Fenya	Dal vada ∆	Kadabu		
Gulabjam*∧ @	Vadi varieties	Sevaya@	Besan ladu			
Rasagulla* +@	Amras*@∆	Shankarpale	Khandvi			
Chamcham		Upama*	Papads +			
Rasmalai		Sheera*∧	Mysorepak/Mesur			
Kulfi*		Rava ladu	Chhole*			
Paneer		Rava vadi	Pakoda varieties			
Mishtidohi		Nankatai	Sandge +∆			
Falooda*		Karanji varieties	Kurdaya			
		Samosa(V)(F)	Khakra∆			
		Chiroti	Thepla ∆			
		Ghivar	Kofta (V)			
		Sutarpheni	Vadi varieties			
		Modak	(V)(M)			
		Anarasa				
		Ghavan				
		Pulav varieties*				
		Bhat varieties*				
		Halwa Bombay & Mahim +				
		Gram based Chakalis ∆				
		Pohe and Kurmure based products				
		Papads + @				
		Amboli and Appam				

* Instant mixes developed; @ manufactured in organised sector; + Exported; ∆ having export potential

LIST OF ADDRESSES OF MANUFACTURERS OF TRADITIONAL PRODUCTS AND MACHINERY

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2.	N. B. CHITALE CHITALE BANDHU MITHAIWALE. BAJIRAO ROAD. PUNE 411 030. TEL. 91-212-473208 FAX : 91-212-477388	SWEETMEATS
3.	Mr. A. F. RANE MARKETING MANAGER SOLAR ARCS. KOLHAPUR 416 234 TEL. (0231) 672486	MAWA KHOA MAKING MACHINE (HEATING AND SCRAPPING)
4.	ANIL CHITTAR APPROPRIATE PROJECTS 52. RASTA PETH. PUNE 411 011. TEL. (0212) 625987. FAX : 0212-624599.	FOOD MACHINERY FOR TRADITIONAL FOODS
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8.	S. P. MALHOTRA WEIKFEILD PRODUCTS CO. (I) LTD WEIKFEILD ESTATE. NAGAR ROAD. PUNE 411 034.	CONVENIENCE MIXES : TRADITIONAL

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